

NOTES ON AUSTRALIAN CETONIDES; WITH A LIST OF
SPECIES AND DESCRIPTIONS OF SOME NEW ONES.

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[*Contribution from the South Australian Museum.*]

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PLATES VI. TO XIII.

The acquisition by the South Australian Museum of two fine new species of *Dilochrosis* rather forcibly directed my attention to the *Cetonides*, a subfamily of beetles considered by many entomologists to be the finest of all. I was previously well aware of the chaotic condition of the Australian genera, which have never been considered as a whole, except by Kraatz; and his revision but added to the confusion.

In 1880⁽¹⁾ Dr. Kraatz gave what purported to be a generic revision of the Australasian *Cetonides*. No doubt our species needed a certain amount of revision, but Kraatz used colour and markings to an unjustifiable extent, with the result that, if his characters were strictly adhered to, new genera would be required for varieties of well-known species. As an example, the diagnosis of his supposedly new genus *Phæopharis*⁽²⁾ contains the following particulars:—"Antennæ castaneæ. Thorax supra castaneus, disco macula magna lobata; (3) basi apiceque nigris. Scutellum nigrum. Elytra castanea, basi humeris suturaque nigris. Pedes nigri, tibiis castaneis, apice nigris." Speaking of the genera proposed by Kraatz, Blackburn said: (4) "Some of these latter are, I think, very unsatisfactorily characterized, and founded on slight characters, even colour being treated as generic." Janson also (5) speaks of "the other numerous so-called genera as characterized" by Kraatz.

In preparing my notes on the subfamily I have probably had under examination much greater numbers of species and of specimens from Australia than have ever previously been gathered together. For this several Museums and private

(1) Deutsche Ent. Zeit, pp. 177-214.

(2) Founded on *Dilochrosis brouni*.

(3) This spot is sometimes absent.

(4) Proc. Linn. Soc., N.S.W., 1893, p. 246.

(5) L. c., 1889, p. 130.

collectors have to be thanked, in particular the National Museum, Melbourne, and Mr. C. French.

I do not purpose giving here, however, a complete generic revision of our species, but where some are obviously out of place to refer them to genera in which they would seem to be more at home. The list, therefore, simply gives particulars of the species that have been described or recorded from Australia, with an attempt at a better grouping than that by Kraatz, many of his genera of necessity being retained. References to species described or commented upon since the date of Masters' Catalogue are given; but where noted in that catalogue, and not since referred to, the numbers there given are regarded as sufficient, and are noted in brackets. Where the species are unknown to me they have been left in the genera in which they appear in Masters' Catalogue, unless specially commented upon.

In his "Australian Insects," pp. 160-162, Froggatt gives some notes on various members of the subfamily, but the species he refers to as *Trichaulax marginipennis* is evidently *T. trichopyga*. On pl. xvii. four species are figured. He also has given life histories of several species, references to these being noted in the list.

Figures of the markings of many species are herewith given, mostly from South Australian collections, but often from specimens in the National Museum or in Mr. French's collection.

In Kraatz's revision considerable attention was nearly always given to the pronotum; but, as a matter of fact, if *Lomaptera* (with its subgenera), *Glycyphana*, and *Microvalgus* are excluded, the sides and base are so similar in all the genera that they cannot be usefully employed. The sides are incurved near the apex, and again near the base, more noticeably on some forms than on others, but the differences are only of degree. Similarly with the base, the median sinus is sometimes deeper on some species than on others, and its proportion to the lateral ones varies; but the differences are only of degree. The scutellum also can seldom be usefully employed.

The dentition of the tibiæ is nearly always sexually variable, the female as a rule having more teeth than the male, this being especially the case with the front pair. To adopt many of Kraatz's diagnoses would often mean referring the sexes or varieties of one species to two different genera.

On the majority of species the pygidium is marked with concentric scratches or strigæ, usually leading up to a small median space. But on some specimens the scratches, whilst of the usual type, leave two small spaces, which then appear

like small granules. This appears to be due to individual variation; it is more common in *Diaphonia* and the allied genera than in others.

In the heavily-timbered parts of Australia many of our finest species appear to occur in abundance, but they are very seldom seen, as they frequent the tops of tall trees. Such collectors as the Dodd Brothers, H. Hacker, and the late H. Elgner, who have climbed trees and there waited, net in hand, have obtained many fine insects that the ordinary collector never sees. In this way they have obtained *Lomaptera macrosticta* and *hackeri*, *Chlorobapta tibialis*, *Dilochrosis frenchi* and *balteata*, *Calodema plebejus*, *Metaxymorpha gloriosa* and *hauseri*, and other magnificent day-flying beetles.

The travelling collector, as a rule, obtains only the commoner species that occur on flowering shrubs and dwarf trees; with an occasional good straggler. By felling trees in full bloom in fairly open country some of the rarer species may be taken occasionally. More than half the species known to occur in the vicinity of Sydney are to be taken on the flowers of *Angophora cordifolia*. Whether, when collecting on tall trees is easier than it is at present, many species will be taken in Tasmania is a question for the future; at present only one representative of the subfamily, a small *Microvalgus*, is known from there.

In a group in which great variability is common, and often combined with rarity of specimens, it is only natural that extensive synonymy should result. Wallace's remarks on the Malayan *Cetoniides*⁽⁶⁾ are equally applicable to the Australian: "The phenomena of variation are well exhibited here. . . . We have insects of wide range, and with such an amount of variation, that few would consider it possible that the extremes, considered alone, could be the same species; but these extremes are united by a series of intermediate forms, many of which occur together in the same locality."

Probably all, or most, of our species will eventually be found to have varietal forms; but the three following lists of species normally, or occasionally, entirely black, may be of interest.

Black species, sometimes with a metallic gloss. No varieties, differing in colour of upper-surface, as yet described:—

Cacochroa pullata.

Diaphonia frenchi (Schoch, not Lea).

Metallesthes metallescens.

Microvalgus mucronatus.

M. nigrinus.

(6) Trans. Ent. Soc., Lond., 3rd ser., iv.

M. squamiventris.
Pseudoclitithria fossor.
P. maura.
Tapinoschema lacunosa.

Black species, with described colour varieties:—

Ablacopus ater.
Cacochroa gymnopleura.
Diaphonia caroli.
Pseudoclitithria ruficornis.

Normally not entirely black species, but with varieties having at least the entire upper-surface black:—

Cacochroa decorticata.
C. variabilis.
Chlorobapta frontalis.
Diaphonia satelles.
D. xanthopyga.
Lomaptera hackeri.
Micropæcila cincta.
Microvalgus vagans.
Pseudoclitithria hirticeps.
Trichaulax philipsii.

The Australian *Cetonides* are readily divisible into three main groups:—

1. Prothorax with a large medio-basal lobe covering, or almost covering, the scutellum. *Lomaptera* and subgenera of same.⁽⁷⁾

2. Prothorax without such a lobe, but base more or less distinctly trisinate.⁽⁸⁾ Mesosternum with a produced process of variable shape. All genera, except in 1 and 3.⁽⁹⁾

3. Prothorax with base rounded. Mesosternal process transverse, not produced. Size very small. *Microvalgus*.

LOMAPTERA, Gory et Percheron (including *Lamapteroides* and *Ischiopsopha*).

Lomaptera, and the other genera that have been proposed at its expense, are readily distinguished from all other Australian *Cetonides* by the median prothoracic lobe being produced backwards so as to almost or entirely conceal the

(7) Several genera, not all Australian, have been proposed at the expense of *Lomaptera*, and usually upon very slight grounds.

(8) Except in *Glycyphana*.

(9) The genera of this section are, as a rule, so ill-defined and lacking in stability, various combinations of characters being looked on as important by some authors and as unimportant by others, that it appears undesirable to use the same specific name in it twice.

scutellum. Schoch, in Mitt. Schweiz. Ent. Ges., x., pp. 141-174, has reviewed the species, giving a table of those belonging to *Lomaptera* (p. 141) and *Ischiopsopha* (p. 157). To the latter subgenus *yorkiana* and *pulchripes* are referred in the table, but they are not otherwise mentioned. At p. 151 *Lomapteroides* was proposed for *duboulayi*.

1. ACANTHOPYGA, Lea, n. sp. Q.
2. AUSTRALIS, Wallace (2534).
prasina, Kraatz, Deutsche Ent. Zeit., 1887, p. 154.
imitatrix, Moser, Ann. Soc. Ent. Belge, 1910, p. 355; Deutsche Ent. Zeit., 1912, p. 565.
3. CINNAMOMEA, Thoms. (2535); Schoch, Mitt. Schweiz. Ent. Ges., x., p. 149. N.T., Q.
var. *diaphonia*, Kraatz, Deutsche Ent. Zeit., 1880, p. 215.
var. *nigripes*, Kraatz, l.c., p. 215.
4. DEYROLLEI, Thoms. (2539); Schoch, Mitt. Schweiz. Ent. Ges., x., p. 162. Australia.
5. DUBOULAYI, Thoms. (2536); v. d. Poll, Notes Leyd. Mus., xii., p. 188; Schoch, Mitt. Schweiz. Ent. Ges., x., p. 151; Lea, Proc. Linn. Soc., N.S.W., 1906, p. 562.
marginata, Kraatz, Deutsche Ent. Zeit., 1890, p. 31.
6. HACKERI, Lea, Proc. Linn. Soc., N.S.W., 1906, p. 562. Q.
7. MACROSTICTA, Lea, l.c., p. 561. Q.
8. PULCHRIPEs, Thoms. (2537); Gestro, Ann. Mus. Civ. Gen., 1878, p. 30. Q.
9. PYGMEA, Kraatz, Deutsche Ent. Zeit., 1880, p. 215; Schoch, Mitt. Schweiz. Ent. Ges., x., p. 89. Q.
10. WALLISIANA, Thoms., Mus. Sci., p. 34; Wallace, Trans. Ent. Soc., Lond., iv. (3rd ser.), p. 540; Janson, Cist. Ent., ii., p. 249. Q.
11. YORKIANA, Janson (2538). Q.
bourkei, Blackb., Trans. Roy. Soc., S.A., 1895, p. 44.

HEMIPHARIS, Burm.

12. INSULARIS, Gory et Perch. (2540). Q., N.T., N.W.A.
olivacea, Schoch, Mitt. Schweiz. Ent. Ges., x., p. 105.
var. *speciosa*, Janson (2542).
froggatti, Macl., Proc. Linn. Soc., N.S.W., 1888, p. 923.
13. LANSBERGEI, Gestro (2541). N.W.A.

DILCHROSIS, Thoms. (including *Phæpharis*).

14. ATRIPENNIS, Macl. (2545). Q., N.T., N.W.A.
var. *castanea*, Janson (2547).

15. BALTEATA, Vollenh. Mohn., Revis. Arch. für Naturg.,
xxvii., 1871, p. 277, pl. vi., fig. 3; Blackb., Trans.
Roy. Soc., S.A., 1895, p. 219. Q.
 16. BAKEWELLI, White (2546). Q., N.S.W., V.
 17. BROUNI, Kirby (2543). Q., N.T., N.W.A.
brunoni, Burm.
 18. FRENCHI, Blackb., Proc. Linn. Soc., N.S.W., 1893,
p. 245. Q.
 19. RUFOLATERA, Lea, n. sp. Q.
 20. SUBFOVEATA, Thoms. (2548). Australia.
 21. TORRIDA, Janson (2549). N.W.A.
 22. WALTERI, Lea, n. sp. N.W.A.
- PÆCILOPHARIS, Kraatz.⁽¹⁰⁾
23. EMILIA, White, Proc. Zool. Soc., 1856, p. 16, pl. xli.,
fig. 9. Q.
- EUPÆCILA, Burmeister.
24. AUSTRALASIÆ, Don. (2553); Froggatt, Proc. Linn. Soc.,
N.S.W., 1893, p. 35. Q., N.S.W., V., S.A.,
N.T.
panzeri, Swartz.
var. *intricata*, Lea, n. var.
 25. EVANESCENS, Lea, n. sp. Q.
 26. INSCRIPTA, Janson (2554); Froggatt, Aust. Insects, pl.
xvii., fig. 7. N.W.A.
 27. MISKINI, Janson (2555). Q.
- CHLOROBAPTA, Kraatz.
28. BESTI, Westw. (2573); Burm., Handb. der Ent., iii.,
p. 799; Froggatt, Aust. Insects, pl. xvii., fig. 8.
N.S.W., V.
 29. FRONTALIS, Don. (2574). N.S.W., V., S.A., W.A.
var. *cunninghami*, Gory et Perch.
var. *jansonii*, Olliff, Cist. Ent., iii., p. 137.
var. *viridisignata*, Macl. (2575).
 30. HIRTIPES, Lea, n. sp. N.S.W.
 31. TIBIALIS, Lea, Proc. Linn. Soc., N.S.W., 1911, p. 464,
pl. xvii., fig. 6. Q.
tibialis, Moser, Deutsche Ent. Zeit., 1912, p. 566.
- CLITHRIA, Burmeister.
32. EUCNEMIS, Burm. (2577); Kraatz, Deutsche Ent. Zeit.,
xxix., p. 75; v. d. Poll, xxx., p. 297. Q.,
N.S.W., V.
var. *albersi*, Kraatz, l.c., xxix., p. 75, pl. i., figs.
1 and 2; v. d. Poll, xxx., p. 298.
var. *nigricollis*, Kraatz, l.c., xxix., p. 74, xxx.,
p. 300; v. d. Poll, l.c., p. 297.

(10) Deutsche Ent. Zeit., 1880, p. 182.

33. FLAVOFASCIATA, Moser, Ann. Soc. Ent. Belge, 1908, p. 361. Q.

NEOCLITHRIA, v. d. Poll.⁽¹¹⁾

34. EBURNEOGUTTATA, Blanch. (2576). Q.
incana, Macl. (2578); v. d. Poll, Deutsche Ent. Zeit., xxx., p. 298.

POLYSTIGMA, Kraatz.

35. CALOPYGA, Lea, n. sp. Q.
 36. OCTOPUNCTATA, Burm. (2565). Q.
ochracea, Westw. (2567).
 37. PUNCTATA, Don. (2566). Q., N.S.W., V.
 38. VITTICOLLE, Macl., Proc. Linn. Soc., N.S.W., 1888, p. 923. N.W.A.

TRICHAULAX, Kraatz.

39. CONCINNA, Janson (2579). W.A.
 40. MARGINIPENNIS, Macl. (2582). Q., N.S.W.
nortoni, Butler.
 41. PHILIPSII, Sch. (2583). Q., N.S.W., V., S.A.
carinata, Don.
schrebersi, Thoms. (2592).
 var. *donovani*, Thoms. (2580).
 var. *kirbyi*, Thoms. (2581).
 var. *macleayi*, Kraatz, Wien. Ent. Zeit., xiii., p. 255; Froggatt, Aust. Insects, pl. xvii., fig. 4.
 42. TRICHOPYGA, Thoms. (2584). Q., N.S.W.

SCHIZORRHINA, Kirby.

This genus, to which at one time or another most of the Australian *Cetonides* were referred, contained seven Australian species when Masters' Catalogue was compiled; but of these only the original one, *atropunctata*, can now remain in it, the others being transferred as follows:—

mastersi is a *Pseudoclitiria*,
neva is a variety of *Cacochroa decorticata*,
nigrans is a variety of *Pseudoclitiria hirticeps*,
pulchra is a *Glycyphana*,
schrebersi is a synonym of *Trichaulax philipsii*,
viridicuprea is a variety of *Lenosoma fulgens*.

43. ATROPUNCTATA, Kirby (2587); Kraatz, Deutsche Ent. Zeit., 1880, p. 198. Q., N.S.W.
quadripunctata, Gory et Perch.
 var. *immaculata*, Lea. n. var.

(11) Deutsche Ent. Zeit., xxx., p. 298.

LYRAPHORA, Kraatz (including *Platedelosia*).

The type of *Lyraphora* was given as *obliquata*; the type of *Platedelosia* as *bassii*. The two supposed genera were widely separated by Kraatz, the firstnamed being placed in his first group having the "mesosternal process narrow, greatly elongated and acuminate"; the other in his second group having "mesosternal process wide, subdilated, apex acuminate or rounded." As a matter of fact, in the female of *obliquata* the process (fig. 185) is much the same as in *bassii* (fig. 186); in the male it is somewhat narrower, but it is quite distinctly wider than long, and to place the species in the first group is absurd.

Both species have the clypeus of the same shape, club of antennæ sexually variable in size, scapulæ large and projected inwards between prothorax and elytra, abdomen of male somewhat flattened along middle but not grooved, and front tibiæ of male armed at apex only. In the female of *obliquata* the front tibiæ of the male are tridentate, in the female of *bassii* they are bidentate; but this alone is not sufficient to warrant their generic separation.

44. BASSII, White (2585). Q., N.S.W.

45. OBLIQUATA, Westw. (2561); Kraatz, Deutsche Ent. Zeit., 1880, p. 191. Q., N.S.W.

gratiosa, Blanch. (2560).

ocellata, Macl. (2562).

46. VELUTINA, Macl. (2586); Lea, Proc. Linn. Soc., N.S.W., 1911, p. 465. Q.

47. VITTIVARIA, Lea, n. sp. Q.

ABLACOPUS, Thoms. (including *Anthrachopharis*).

48. ATER, Schoch, Gen. et Spec. Cetonidensammlung, Zurich, 1895, p. 140. Q.

49. TÆNIATUS, Schoch, Mitt. Schweiz. Ent. Ges., ix., p. 381; Ent. Nachr., xxii., p. 199. Q.

50. TRAPEZIFER, Thoms. (2564). Q., N.S.W.

MICROPECILA, Kraatz.

51. CINCTA, Don. (2569); Froggatt, Proc. Linn. Soc., N.S.W., 1896, p. 75. N.S.W., W.A.

circumcincta, Dej.

fulvocincta, Blanch.

var. *breweri*, Janson (2568).

var. *melancholica*, Lea, n. var.

CACOCHROA, Kraatz (including *Aphanesthes* and *Camilla*).

52. DECORTICATA, Macl. (2557). Q.

var. *assimilis*, Macl. (2558).

var. *neva*, Gestro (2589).

53. GYMNOPLEURA, Fischer (2570); Lea, Proc. Linn. Soc., N.S.W., 1911, p. 465. N.S.W.

var. *concolor*, Gory et Perch.

var. *tenebricosa*, Dej.

var. *rugicollis*, Kraatz.

54. OBSCURA, Blackb., Proc. Linn. Soc., N.S.W., 1888, p. 858. N.T.

55. PULLATA, Janson (2572). Q.

56. VARIABILIS, Macl. (2571). Q.

57. VARIICOLLIS, Lea, n. sp. Q.

DIAPHONIA, Newman (including *Chondropyga*, *Dysdiatheta*, *Dysectoda*, *Hemichnoodes*, *Melobastes*, and *Pæcilocephala*).

I have been unable to see the original reference⁽¹²⁾ to this genus, but Burmeister⁽¹³⁾ gives the typical species as the common *dorsalis*. Kraatz⁽¹⁴⁾ also quotes *dorsalis* as the typical species. Kraatz and Thomson proposed many genera at its expense, and the majority of these on such trivial characters that they should not be maintained.

Chondropyga. Noted under *D. gulosa*.

Dysdiatheta. Noted under *D. vicina*.

Hemichnoodes. Noted under *D. mniszechii*.

Melobastes. Noted under *D. xanthopyga*.

Pæcilocephala. There is absolutely nothing in the diagnosis of this genus by which it could be distinguished from *Diaphonia*. The antennal club of *succinea* is certainly smaller than in the males of *dorsalis* and some other species of the genus, and is practically alike in both sexes; but this also is the case with some other species of *Diaphonia*.

Dysectoda. Kraatz proposed this genus for *dispar*, and doubtfully associated *digglesi* with it. But the latter is certainly congeneric with *impar*, which was made the type of *Tapinoschema* by Thomson. As regards *dispar*, if this species was really from Queensland, as noted in Masters' Catalogue,⁽¹⁵⁾ I probably have not seen it; but, if not, it seems

(12) Loudon's Mag. of Nat. Hist., n. ser., iv., 1840, p. 366.

(13) Handb. der Ent., iii., p. 536.

(14) Deutsche Ent. Zeit., 1880, p. 199.

(15) Burmeister, Kraatz, and Gemminger and Harold all give New Holland as the locality.

extremely probable that the species was the one subsequently described as *satelles*. The short descriptions of the sexes, as given by Burmeister, agree in every detail with many specimens of that species, and if *satelles* is a synonym of *dispar*, then the species is certainly congeneric with *dorsalis*. In any case, the genus *Dysectoda* does not appear to be required. Kraatz placed it in his first group of genera having the "mesosternal process narrow, greatly elongated and acuminate." *Digglesi* certainly has the mesosternal process obtusely pointed, but it is neither narrow nor greatly elongated; *impar* has the process a little shorter and more rounded, but it certainly is congeneric with *digglesi*, and Kraatz left the former in *Diaphonia*.

Micropœcila. The tibiæ tridentate in both sexes and longer than the tarsi are the only features in the generic diagnosis that, in conjunction, seem divergent from *Diaphonia*. The mesosternal process is obtusely pointed in *cineta*, but then it is scarcely alike on any two species of *Diaphonia*. It is certainly a very weak genus, but perhaps, on the whole, may be allowed to remain.

Tapinoschema. Noted under genus.

58. CAROLI, Lea, new name. Q.

frenchi, Lea, n. pr., Proc. Linn. Soc., N.S.W., 1911, p. 463.

59. DEYROLLEI, Thoms. (2559). Australia.

60. DISPAR, Newm. (2552); ⁽¹⁶⁾Kraatz, Deutsche Ent. Zeit., 1880, p. 188. Australia.

penelope, Newm.

ulysses, Newm.

61. DORSALIS, Don. (2594); Kraatz, l.c., p. 199; Froggatt, Proc. Linn. Soc., N.S.W., 1895, p. 325. Q., N.S.W.

hookeri, Swartz.

62. EUCLENSIS, Blackb., Proc. Linn. Soc., N.S.W., 1893, p. 248. S.A., W.A.

63. FRENCHI, Schoch, Mitt. Schweiz. Ent. Ges., x., p. 106. Central Australia.

64. GULOSA, Janson (2609). V.

65. LATERALIS, Blackb., Proc. Linn. Soc., N.S.W., 1893, p. 246. Q.

66. LUTEOLA, Janson (2595). W.A.

67. MELANOPYGA, Lea, n. sp. S.A.

68. MNISZECHII, Janson (2601). V., S.A., W.A.

69. NEGLECTA, Thoms. (2556). W.A.

(16) Loudon's Magazine, p. 366; not Annals and Magazine, p. 336, as given in Masters' Catalogue.

70. NIGRICEPS, Blanch. (2596). Australia.
71. NOTABILIS, White (2611); Janson, Cist. Ent., ii., p. 139,⁽¹⁷⁾ pl. i., fig. 6; Kraatz, Deutsche Ent. Zeit., 1880, pp. 201 and 204. Australia.
72. OLLIFFIANA, Janson, Proc. Linn. Soc., N.S.W., 1889, p. 127; Froggatt, Aust. Insects, pl. xvii., fig. 10. N.S.W.
73. PALMATA, Schaum. (2563). Q., N.S.W.
74. PARRYI, Janson (2597); Blackb., Trans. Roy. Soc., S.A., 1901, p. 22. S.A., W.A.
seminigra, Kraatz (2598).
75. SATELLES, Blackb., Proc. Linn. Soc., N.S.W., 1893, p. 250. S.A.
76. SUCCINEA, Hope (2602); Westwood, Trans. Ent. Soc., Lond., 1854, p. 74, pl. vii., fig. 9. W.A.
77. SUTURATA, Nonfr., Berl. Ent. Zeit., xxxvi., p. 370. Q.
78. VICINA, Janson (2550). W.A.
79. WITTEI, Schoch, Mitt. Schweiz. Ent. Ges., x., p. 105. N.T.
80. XANTHOPYGA, Germ. (2599); Kraatz, Deutsche Ent. Zeit., 1880, p. 200. S.A., W.A.

TAPINOSCHEMA, Thoms.

This genus was proposed by Thomson for *Schizorrhina impar*. By Kraatz that species was referred to *Diaphonia*. It certainly has but slight grounds for generic rank apart from *Diaphonia*, but may be associated with *Diaphonia digglesii* (*Dysectoda* of Kraatz) and *Diaphonia lacunosa* (*Metallestes* of Kraatz). These three species agree in having a short robust form with coarse elytral punctures in numerous irregular series. The head and mesosternal process are similar, but the tibiae are somewhat variable. That they belong to but one genus seems certain, and for the present, at any rate, they may be left in *Tapinoschema*.

81. DIGGLESII, Janson (2551). Q.
82. IMPAR, Macl. (2600). Q.
83. LACUNOSA, Janson (2603). S.A., W.A.

LOPHOSTOMA, Schoch.

84. CHLOROTICA, Schoch, Mitt. Schweiz. Ent. Ges., x., p. 106. S.W.A.

METALLESTES, Kraatz.

85. METALLESCENS, White (2605). S.A., W.A.
var. *unicolor*, Macl. (2608).
86. SUBPILOSA, Nonfr., Berl. Ent. Zeit., xxxvi., p. 369. Q.

(17) In error printed 391, and so quoted by Kraatz.

PSEUDOCILITHRIA, v. d. Poll.⁽¹⁸⁾

87. ADUSTA, Janson, Proc. Linn. Soc., N.S.W., 1899, p. 129.
W.A.
88. ANCHORALIS, Lea, n. sp. S.A.
89. DEJECTA, Lea, n. sp. W.A.
90. ERYTHROPTERA, Lea, n. sp. N.W.A.
91. FOSSOR, Lea, n. sp. W.A.
92. HIRTICEPS, Macl. (2610). Q.
bicostata, Kraatz, Deutsche Ent. Zeit., xxix., p. 75,
pl. i., fig. 3; v. d. Poll, l.c., xxx., p. 299.
var. *nigrans*, Macl. (2590).
93. KERSHAWI, Lea, n. sp. S.A.
94. MASTERSI, Macl. (2588). Q.
95. MAURA, Janson (2604). W.A.
96. RUFICORNIS, Westw. (2606). S.A., W.A.
97. RUGOSA, Schaum. (2607); Janson, Proc. Linn. Soc.,
N.S.W., 1889, p. 130. W.A.

LENOSOMA, Macleay.⁽¹⁹⁾

98. FASCICULATUM, Macl. (2613). N.S.W.
99. FULGENS, Macl. (2614). Q.
var. *viridicupreum*, Macl. (2593).
100. TIBIALE, Macl. (2615). Q.

GLYCYPHANA, Burmeister.

101. BRUNNIPES, Kirby (2616). Q., N.S.W.
conspersa, Gory et Perch.
obscura, Don.
viridiobscura, Dej., G. & P., pl. lv., fig. 5.
var. *fasciata*, Fabr.
var. *perversa*, Schaum.
var. *stolata*, Fabr.
102. OCHREONOTATA, Lea, n. sp. Q.
103. PULCHRA, Macl. (2591). Q.
subdepressa, Blackb., Proc. Linn. Soc., N.S.W.,
1890, p. 151.

PROTÆTIA, Burmeister.

104. ADVENA, Janson (2612). Q.
105. MANDARINEA, Weber, Obs. Ent., p. 68; Hockings and
Fitch, Trans. Ent. Soc., Lond., 1884, p. 157;
Blackb., Proc. Linn. Soc., N.S.W., 1888, p.
1414. Q.

(18) Deutsche Ent. Zeit., xxx., p. 299.

(19) Trans. Ent. Soc., N.S.W., i., p. 18; Kraatz, Deutsche Ent.
Zeit., 1880, p. 212.

MICROVALGUS, Kraatz.

106. APICALIS, Lea, n. sp. N.S.W.
107. BURSARIÆ, Lea, n. sp. N.S.W., V., T.
108. CASTANEIPENNIS, Macl. (2617). Q., N.S.W.
109. DUBIUS, Lea, n. sp. V.
110. FASCICULATUS, Lea, n. sp. N.S.W.
111. GLABER, Lea, n. sp. N.S.W.
112. LAPEYROUSEI, G. et P. (2618); Blackb., Proc. Linn. Soc., N.S.W., 1892, p. 114. Australia.
113. MUCRONATUS, Lea, n. sp. Q.
114. NIGRICEPS, Lea, n. sp. Q.
115. NIGRINUS, Macl. (2619). Q., N.S.W., V.
116. QUINQUEDENTATUS, Lea, n. sp. Q.
117. RUFIPENNIS, Lea, n. sp. N.S.W., V.
118. SCUTELLARIS, Blackb., Trans. Roy Soc., S.A., 1894, p. 206. N.S.W.
119. SQUAMIVENTRIS, Lea, n. sp. N.S.W., V.
120. VAGANS, Lea, n. sp. Q., N.S.W.
var. *obscuripennis*, Lea, n. var.
121. YILGARNENSIS, Blackb., Proc. Linn. Soc., N.S.W., 1892, p. 114. W.A.

LOMAPTERA YORKIANA, Janson.

Ischiopsopha bourkei, Blackb.

Pl. xiii., figs. 159, 160.

This species is a common one about Cairns and elsewhere in Northern Queensland, and may be readily distinguished from the other Australian green species by two characters in combination, *viz.* :—

1. A strong transverse ridge (almost a carina) across the pygidium.

2. Elytra with transverse strigæ on the sides from near the middle to near the apex, then directed across, by way of the preapical callosities, to near the suture; but the apical slopes and the discs entirely without strigæ.

The teeth of the front tibiæ are somewhat variable, the hind one being sometimes very feeble. The black tubercle on the shoulder, mentioned by Janson, appears to be due more to handling of the specimens than to any other cause, and on good specimens the black is either altogether absent or is just traceable. An occasional specimen in certain lights appears almost purplish, or something like shot-silk. The male is rather narrower than the female, and has the four

median segments of abdomen conspicuously impressed along the middle.

There are in the South Australian Museum the type female and a co-type male of *bourkei*,⁽²⁰⁾ and these agree perfectly with Janson's description of *yorkiana*; the latter name has precedence.

LOMAPTERA PYGMÆA, Kraatz.

A few years ago Mr. Hacker took numerous specimens of a small species of *Lomaptera* at the Coen River. Some of these were compared and agreed with specimens in the Macleay Museum from New Guinea, standing under the name of *pygmæa*. Recently Mr. W. D. Dodd took six specimens of the species at the Coen River, and these agree with the original description, except that the size is smaller ($15\frac{1}{2}$ -19 mm. as against 19-21 mm.) and that the entire legs, instead of apparently the femora only, are of metallic-red.

In general appearance it is like *pulchripes*, except that it is smaller and more metallic, but the clypeus is more deeply cleft and the scutellar lobe is rounded at the tip, concealing the scutellum.

LOMAPTERA WALLISIANA, Thoms.

This species was originally recorded as from Wallis Island, but Wallace records it from Cape York from a specimen in Major Parry's collection. Janson compared it with *yorkiana*, from which he stated it differs in the prothorax regularly rounded at the sides from the base.

I have seen several species labelled as *wallisiana* and *wallisiana*, but they usually belonged to *yorkiana*.

LOMAPTERA PULCHRIPE, Thoms.

A common insect in Northern Queensland, although in Masters' Catalogue only recorded from Fitzroy Island.

The male has a rather wide depression along the middle of the second and third abdominal segments, but traceable on to the preceding and following ones. A male in the National Museum is larger (25 mm.) and rather broader than usual, and has the pygidium of a beautiful golden-red. Another male in the National Museum (from the Endeavour River) is of a most beautiful golden-green, both above and below, with the legs and pygidium of a beautiful purplish-bronze. Each of its front tibiæ has the two terminal teeth of normal length, but the following one (in the middle of the outer edge) is greatly reduced in size, appearing little more than a slight swelling.

(20) It is from these that the figures of the tibiæ were drawn.

LOMAPTERA DUBOULAYI, Thoms.

Pl. vii., fig. 9.

In this species the prothorax and elytra usually have a complete flavous border, narrower at apex of prothorax, and wider at apex of elytra than elsewhere. Frequently near the apex of prothorax a small spot extends inwards on each side, and occasionally a vague spot may be traced on each shoulder.

In the National Museum there are two females, from Cape York and Endeavour River, that have no flavous border to the prothorax. The elytra also at first appear to be without such a border, but on a close examination the sides are seen to be obscurely diluted with red.

LOMAPTERA CINNAMOMEA, Thoms.

Pl. vii., figs. 10, 11.

This species varies from a form with the prothorax immaculate to one with a wide M in the middle of same, but the common form has three disconnected spots, of which the middle one is longer than the others (as on the type). Sometimes there is also a vague spot towards each side at the apical third.

The female differs from the male in being wider, elytra less narrowed posteriorly, pygidium more pointed, abdomen evenly convex along middle, and front tibiæ with an obtuse tooth near apex, in addition to the terminal tooth.

LOMAPTERA DEYROLLEI, Thoms.

This species was described as being entirely of a clear olivaceous-green; but Schoch, in redescribing it, says it resembles *lucivorax* ⁽²¹⁾ in the blackened anterior edging of the elytra, and, again, "elytra darker and duller-green with blackened anterior edge, but not so wide and intense as in *lucivorax*." ⁽²²⁾ Thomson did not mention the tibial dentition, but Schoch described the front tibiæ of the male as bidentate. The shape of the pygidium was mentioned by neither.

It appears possible that Thomson really had two species before him. At the time he described *deyrollei*, he mentioned having four specimens, and quite possibly the type belonged to *australis*, and the specimen described by Schoch to a form of *yorkiana* with elytra darker at the base than usual.

Thomson described the elytra as "basi lævia deinde punctato-striolata, striolis transversis," characters which

(21) A Papuan species.

(22) Translation by Mr. F. R. Zietz.

would appear to exclude it from *yorkiana*, but which agree with *australis*, as, in fact, does the whole of his description. On the other hand, Schoch described the elytra as being transversely scratched at the sides and posteriorly, and the anterior tibiae of the male as bidentate, characters which exclude it from *australis*, but render it probable that the specimen he described really belongs to *yorkiana*.

There is, of course, the possibility that the type of *deyrollei* really belongs to neither *australis* nor *yorkiana*; but the quoted extracts render it quite evident that the specimens described as *deyrollei* by Thomson and Schoch, belong to two distinct species.

LOMAPTERA AUSTRALIS, Wallace.

Pl. xiii., figs. 161, 162.

The description of this species, of which only the male was known to Wallace, is rather short and somewhat unsatisfactory. I have seen the name attached to several green species, but am fairly confident that five males (from Cape York, Coen River, Cairns, and Darnley Island) and a female (from the Coen River) belong to the species.⁽²³⁾ These specimens are much the same in size and colour as *yorkiana*, but differ in having the pygidium subconical, instead of transversely keeled, and the elytra with transverse scratches over most of their surface only, agreeing well with "elytra finely transversely striate, the base smooth." They range in length from $11\frac{1}{2}$ - $13\frac{1}{2}$ lines (the types were 13-15 lines). The front tibiae were described as "inermibus," and, again, as having the "outer edge quite smooth." But probably the apical tooth was regarded as a spur.

The female differs from the male in having the elytra less narrowed posteriorly, the pygidium compressed on each side (so that it appears almost keeled longitudinally), abdomen strongly convex along middle, and front tibiae obtusely dentate near apex.

The species appears to be the same as the one subsequently named *prasina*, from Aru, and still later as *imitatrix*, from Darnley Island; the latter has already been noted as a synonym of the former.

LOMAPTERA HACKERI, Lea.

Pl. vii., fig. 14.

In a long series of this species recently taken at the Coen River by Mr. W. D. Dodd, about one-fourth of the

⁽²³⁾ Mr. W. D. Dodd has recently taken it in abundance at the Coen River.

specimens have the elytra entirely dark, and in many others the red markings are just traceable.

LOMAPTERA MACROSTICTA, Lea,

Pl. vii., figs. 12, 13.

Twelve specimens recently taken by Mr. W. D. Dodd at the Coen River all have the large spot entire, as in fig. 13, but I have seen several resembling fig. 12.

LOMAPTERA ACANTHOPYGA, n. sp.

Pl. vi., fig. 1.

♀. Metallic coppery-green, portion of clypeus, lateral and basal margins of prothorax (narrowly), about one-third of elytra at apex, pygidium, tibiæ, tarsi, antennæ, and palpi more or less castaneous, with a faint greenish gloss.

Head with small, scattered punctures, becoming denser on clypeus; the latter deeply cleft. *Prothorax* feebly decreasing in width from base to beyond the middle, and then strongly narrowed to apex; disc with small, scattered punctures, becoming denser towards and strigose on sides; scutellar lobe somewhat obtuse at tip, just leaving the tip of scutellum exposed. *Elytra* not much wider than prothorax, post-humeral incurvature rather strong, sides diminishing in width to apex; rather densely transversely strigose, except at basal fourth, where there are a few small punctures only. *Pygidium* acutely produced in middle, longitudinally foveate on each side of base, densely concentrically strigose. Front *tibiæ* sinuous on external edge, the apex strongly dentate. Length, 22 mm.

Hab.—Queensland: Johnstone River. Type in C. French's collection.

Readily distinguished from all previously described Australian species by the partly castaneous elytra and appendages and acutely pointed pygidium. Its nearest Australian ally is *duboulayi*, but the pygidium is very different to that of the female of that species. The two shades of colour on the elytra gradually merge into each other.

HEMIPHARIS INSULARIS, Gory et Perch.

Described originally as from Melville Island, but a common species in the Northern Territory and Queensland. Specimens vary in size from 17 to 26 mm.,⁽²⁴⁾ and in colour

(24) The only specimen I have ever seen less than 20 mm. is but 17 mm., and is in the National Museum from the Endeavour River.

from olivaceous-green to bright golden-green. In the Blackburn collection there were two specimens from North-West Australia placed as belonging to the species without comment, and they agree with the description of *speciosa*, which appears to be simply a variety. All the rather numerous specimens that I have seen from North-West Australia have a brighter colour than those from the other parts of Australia. Numerous specimens from Tennant Creek (taken by Mr. J. F. Field) are intermediate in appearance. *Froggatti* appears to have been described from a male of *speciosa*. The form described as *olivacea* is quite the common Northern Territory form of the species.

A specimen from Darwin has the elytra (except the suture, which is green) and abdomen of a distinct bluish-purple, strongly at variance in colour with all the other specimens that are before me. A second specimen, however, has the elytra slightly tinged with purple, although when viewed from behind the purple tinge is more evident. The punctures and lateral scratches vary to a certain extent. The male is considerably narrower than the female, consequently more strongly convex, and its pygidium is much less transverse, with its lower edge slightly more produced.

DILOCHROSIS BROUNI, Kirby.

Pl. vii., figs. 15, 16, 17.

This species should never have been generically separated from *Dilochrosis atripennis*, and to make it the type of a new genus (*Phæopharis*) largely on account of colours (even using a prothoracic spot that is not always present) is reducing generic distinctions to an absurdity. Only that Australian species have been catalogued in accordance with Kraatz's ideas, it would be better to regard his treatise as non-existent.

The prothoracic spot, when present, is generally fairly large, but I have never seen it of exactly the same shape on any two specimens. Sometimes it is split up into two, sometimes it is represented by two small vague spots, and not infrequently it is entirely absent. Generally there are two or three small lateral spots slightly in advance of the middle.

A female in the National Museum, evidently belonging to this species, is of a very dark brown, so dark that the black markings are very ill-defined. It is covered all over (except on the black parts) with minute granular elevations, giving the surface an appearance as if covered with very fine dew. To the naked eye the granules are not distinct, but, when present, they cause the surface to appear less polished than the other parts. This curious appearance was probably due

to the specimen having been in some way injured before maturity. In all other structural details it agrees absolutely with normal females.

DILOCHROSIS ATRIPENNIS, MacL.

var. *castanea*, Janson.

The typical form of this species has the elytra of a very dark-brown, almost black; but the species varies to a form in which the only dark parts are some faint infuscations at the base of prothorax and elytra, and a vague spot on each side of the former. The commonest form is one in which the head and scutellum are blackish, and there is a distinct spot on each shoulder. This form has been named *castanea*.⁽²⁵⁾

Mr. Janson stated that *castanea* could be distinguished from *atripennis* by "the four posterior tibiæ of the female being armed externally with an acute tooth in the middle." But all the females of *atripennis* now before me are so armed, and the males have these tibiæ unarmed in the middle. The species varies from 30 to 40 mm. in length, and is widely distributed in the tropical parts of Australia, although apparently nowhere common.

DILOCHROSIS TORRIDA, Janson.

There are before me two specimens from Western Australia (Beverley and King Sound) that I have long had under the name of *torrida*. They are entirely castaneous on the upper-surface, with the exception of a slight infuscation at the base of the prothorax and the elytral suture. The upper-surface has not the high polish that is usual in *Dilochrosis*; but there are many other specimens of the subfamily in which the degree of polish varies very considerably, and is probably due to a certain extent to immersion in spirits or other liquids, or to other causes. These specimens have the four hind tibiæ each armed at the middle with a sharp spine, and as the abdomen is evenly convex along the middle they are certainly females. But the type was described as having the four hind tibiæ simple externally and the sign "♀" was used for it; possibly, however, in error. The two specimens under examination vary somewhat in comparative widths, in the colour of the under-surface and punctures of the abdomen, but I believe them to represent an extreme form of *atripennis*, and think it probable that the name *torrida* should be regarded as a varietal one.

(25) Reference to the figure of *castanea* (Cist. Ent., i., pl. vi., fig. 1) was omitted from Masters' Catalogue.

DILOCHROSIS BALTEATA, Vollenh.

Pl. xii., fig. 115.

Fair numbers of this handsome insect have recently been taken from Cairns to the Coen River, in North Queensland.

DILOCHROSIS BAKEWELLI, White.

Pl. vii., fig. 18.

This species, a very rare one in collections, extends from Melbourne to Brisbane.

DILOCHROSIS SUBFOVEATA, Thoms.

The description of this insect is a rather curious one, as the head and prothorax are described as being "subsurdus" (somewhat deaf), and the elytra as being "foveis 4 vagis ornata," apparently spots being meant, as in comparing the species with *brouni* "quatre taches noires" are mentioned.

DILOCHROSIS FRENCHI, Blackb.

The type of this species is in the National Museum, and by the courtesy of Mr. Kershaw I have been able to examine it. It is certainly a male, as presumed by the late Rev. T. Blackburn. On its elytra across the middle there is a distinct depression, and there is a less distinct one a short distance behind the middle. These depressions were not mentioned in the original description, and may have been considered accidental, but they are alike on four other specimens under examination.

The female differs from the male in having the sides of the clypeus rounded instead of parallel-sided, and less turned up at the apex; the elytra less narrowed posteriorly; abdomen evenly convex along middle; front tibiæ strongly and acutely tridentate, and the other tibiæ each with an acute median tooth. In the female the apex of the clypeus is very feebly incurved to the middle, and in the male it is straight. All other species of the genus have the clypeus deeply cleft.

Specimens have been taken on tops of tall trees at Kuranda on several occasions by the sons of Mr. F. P. Dodd.

DILOCHROSIS RUFOLATERA, n. sp.

Pl. vi., fig. 2.

♀. Black, shining, sides of prothorax of a deep-red.

Head with fairly dense and rather small punctures, and much denser minute ones. *Clypeus* with punctures as on head, widely depressed towards apex, the sides not separately elevated, apex moderately notched, with the tips rounded, sides rounded. *Prothorax* with sides narrowly margined,

median sinus deep, about two-thirds the width of each of the lateral ones; with dense and very minute punctures, and with fairly numerous large ones, but still small, becoming larger towards the sides. *Scutellum* with very minute punctures, and with a vague median depression. *Elytra* not much wider than prothorax, post-humeral incurvature feeble, apex bimucronate; with distinct rows of small punctures in feeble striæ; the interstices with minute scattered punctures; apex and sides near apex transversely or obliquely strigose. *Pygidium* obtusely ridged transversely, densely concentrically strigose. *Mesosternal process* produced to between front coxæ, with the apex almost equilaterally triangular. Front *tibiæ* obtusely tridentate, the median tooth nearer the apical than the subbasal one, the other *tibiæ* each acutely dentate about the middle. Length, 37 mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type, I. 1484, in South Australian Museum.

Allied to *bakewelli*, but differs from female of that species in being somewhat narrower, with the elytra and pygidium entirely black, the former with more conspicuous rows of punctures and apex less acutely bimucronate, prothorax with a much smaller portion of the sides red (the red much the colour of the elytral fascia of *balteata*), and front *tibiæ* more obtusely tridentate. The greatest width of the red margins is slightly in advance of the middle, where it is almost the width of the scutellum, but it is narrowed to apex, and does not quite extend to the base. The hind coxæ are vaguely diluted with red. The type was obtained floating on a tub of water at Malanda.

DILOCHROSIS WALTERI, n. sp.

Pl. vi., fig. 3; pl. vii., fig. 19.

♂. Flavous, shining; sides of base of head, tips of clypeus, prothorax narrowly at base and narrowly at middle of apex, two longitudinal vittæ, elytra at sides of scutellum, suture, a spot on the shoulder, and an elongated one near the apex of each elytron, most of the sutures of under-surface, knees, tibial spurs, and teeth, and the tarsi black or blackish; antennæ and palpi more or less reddish.

Head with rather dense, small punctures, except on a transverse shining line near base. *Clypeus* with somewhat coarser punctures than on head; apex deeply notched, with the tips acute, with a sublateral ridge from base to apex. *Prothorax* with sides narrowly margined; median sinus rather shallow, but little more than half the width of each of the outer ones; with dense, minute punctures and fairly numerous larger (but still small) ones. *Scutellum* with rather

dense punctures about base and small elsewhere. *Elytra* very little wider than prothorax, post-humeral incurvature feeble, sides feebly decreasing in width to apex, suture narrowly elevated posteriorly and bimucronate at apex; with somewhat irregular rows of small punctures; the interstices with smaller scattered ones. *Pygidium* obtusely pointed in middle, rather densely concentrically strigose. *Mesosternal process* produced to between front coxæ, apex somewhat depressed, sides gently incurved. Abdomen with a wide and rather shallow median depression. Front *tibiæ* rather strongly tridentate, subbasal tooth the smallest, hind ones acutely dentate in middle, the middle pair unarmed in middle. Length (σ , φ), 25-31 mm.

φ . Differs in being stouter and somewhat wider, pygidium more transverse, abdomen evenly convex and legs shorter, with the front tibiæ more strongly tridentate, and the middle pair as well as the hind ones armed in the middle.

Hab.—North-West Australia. Fortescue River, near Hammersley Range (Walter D. Dodd). Type, I. 1495, in South Australian Museum.

Very distinct from all previously described species. In its spotted elytra it apparently resembles *subfoveata*, but that species is described as having the head and scutellum black, and prothorax with a single narrow fascia. The prothoracic vittæ are sometimes feebly interrupted in the middle, and may extend to the base or may not touch it. There are generally two infusate spots on the clypeus, and there is occasionally one on the pygidium.

PECILOPHARIS EMILIA, White.

This species was described originally as from the New Hebrides and as a *Schizorrhina*, but it seems to be fairly common about Cairns and elsewhere in Northern Queensland.

The markings on the elytra are subject to considerable variation. The scutellum may be entirely yellowish, or with a median line occupying half or more of the surface. The pygidium may have two or four spots.

EUPECILIA AUSTRALASIÆ, Don.

Pl. vii., figs. 20, 21.

This species is abundant in many of the coastal districts of New South Wales and Queensland,⁽²⁶⁾ but is rare in Victoria, South Australia, and the Northern Territory. When specimens are alive their markings are of a vivid green, but after being placed in alcohol these become yellow or

(26) Queensland specimens are usually smaller than those from New South Wales.

greenish-yellow. Even if killed in other ways the green usually changes, unless the internal parts are quickly removed. The species is commonly called the "Horseshoe Beetle" or "Fiddler Beetle," on account of the markings. These are singularly constant; slight variations of detail as regards the vittæ occur, but I have seen no specimens of the species that could not be confidently identified at a glance. But the only specimen that I have seen from the Northern Territory has the median prothoracic vitta reduced to a small indistinct spot, and the transverse basal mark to two small disconnected spots.

On the female there is an angular black spot in the middle of the pygidium, connected with the base by a short black line. On the male there are two spots connected with the lower edge of the pygidium; but separated internally, with a median black vitta extending from the base to about the middle.

var. *intricata*, n. var.

Pl. vii., fig. 22.

A female in Mr. French's collection, from North Queensland, is labelled "*Schiz. panzeri*, Swartz, or sp. nov.," in the late Rev. T. Blackburn's writing. This was, no doubt, a guess on his part, as he had not seen the description of *panzeri*. In Masters' Catalogue *panzeri* is given as a synonym of *australasiæ*, and the description, except for the base of the prothorax, agrees quite well with ordinary specimens of the species, whose markings have faded from green to flavous. Of the basal markings Swartz says "ante basin linea transversa sinuata flava (subinde interrupta)"; whereas on normal specimens the basal marking is usually continuous and connects with the lateral ones.

On Mr. French's specimen, however, there is a disconnected curved mark on each side of the base, and on each elytron there is a narrow vitta on each side of the suture, commencing just before the tip of the scutellum, and terminating some distance before the postmedian fascia. In all structural details, however, it agrees with normal females, so it does not appear desirable to give it more than a varietal name.

EUPÆCILA EVANESCENS, n. sp.

Pl. vi., fig. 4; pl. xiii., fig. 183.

♀. Black; pale markings as follows:—Clypeus (except for the tips and a short line connected with each of same); sides (the extreme outer base black) and apex (but not the extreme apex) of prothorax (but with a small dark spot on each side); a median line on scutellum; a curved line on each elytron from the base to basal third, a small spot half-way

from near apex of same and suture, an interrupted postmedian fascia (or transverse row of spots); a large transverse spot on each side of pygidium, and the tip of same; a fascia across each abdominal segment (on the second and third interrupted in middle) except the apical one, which has a small spot on each side; metasternum except the middle and sutures, parts of meso- and of prosternum; parts of front and of hind coxæ, lower edge of femora, upper edge of the hind pair, and a subapical spot on the upper edge of each of the others.

Head with rather small irregularly distributed punctures. Clypeus rather strongly notched in front, tips and sides rounded; punctures rather denser and coarser than on head. Club somewhat shorter than clypeus. *Prothorax* with the margins lightly sinuous and rather strongly decreasing in width from base to apex; medio-basal sinus fairly deep, about half the width of each of the others; sides and apex with a few small punctures, elsewhere almost impunctate. *Scutellum* with a few small punctures. *Elytra* not much wider than prothorax, but shoulders rather strongly bent downwards, posthumeral incurvature strong, suture raised posteriorly but flat near base, with a few small scattered punctures, but some fairly coarse ones on the margins near apex. *Pygidium* strongly transverse, transversely or obliquely strigose. Mesosternal process strongly produced and acute. Front *tibiæ* strongly tridentate, the hind ones with a submedian transverse ridge. Length, 21 mm.

Hab.—Queensland: Bowen. Type in National Museum from F. H. duBoulay.

Rather larger than the female of *australasiæ*, prothorax without median and basal markings, elytra without apical markings, the postmedian fascia and the basal vittæ different, the mesosternal process longer and more acute, and the *tibiæ* somewhat different. The pale markings of the type are now of a rather dingy-flavous, but in places with remnants of green; on the living specimen, however, they were probably of a bright-green.

EUPÆCILA MISKINI, Janson.

Janson's figure⁽²⁷⁾ of this species shows an insect somewhat like *australasiæ*, but with markings certainly different. The elytral markings approach those of *Chlorobapta besti* and *tibialis*, but as the mesosternal process is described as "long, pointed, and slightly incurved at its apex," it is quite certainly not a *Chlorobapta*.

(27) Cist. Ent., ii., pl. i., fig. 5 (not 4, as quoted in Masters' Catalogue).

EUPÆCILA INSCRIPTA, Janson.

Pl. vii., figs. 23 and 24.

Living specimens of this species are of a beautiful pale-green colour, but after immersion in alcohol the green changes to yellowish-green (as the type was described to be), and finally to brownish-yellow. The markings are variable, but the reversed W⁽²⁸⁾ on the prothorax appears to be always conspicuous. The pygidium usually has three black spots on the male, but sometimes the median one is absent. On the female only the median spot is present.

CHLOROBAPTA FRONTALIS, Don.

Pl. viii., figs. 29 to 40.

This common and widely distributed species is the most variable of all the Australian *Cetonides*. In length it ranges from 17 to 26 mm. The markings are indifferently green, greenish-yellow, or yellow, but probably on living specimens they are nearly always green. Many specimens have markings somewhat like those of *Eupæcila australasiae*, but that species has the mesosternal process acute.

The description of *viridisignata* would indicate that it is quite an ordinary variety of the species. It is true that Macleay made no mention of prothoracic markings, but these are often so small and obscure that they could be easily overlooked.

The form described as *jansoni* appears to represent almost, but not quite, the extreme end on the dark side. A specimen, labelled by the late Rev. T. Blackburn as *jansoni*, agrees well with the description, except that it has no spots on the pygidium; but these are frequently absent, even on specimens with quite extended markings. The spots were described as bright-yellow, and they are bright-yellow on the specimen under examination. There are two specimens of this variety in the National Museum, also without spots on the pygidium. One has been in Mr. French's collection, and is labelled as from the Salt River in the late Mr. A. S. Olliff's writing.

The pale markings attain their maximum on a specimen (fig. 30) in the National Museum, on whose right elytron all are connected, with the exception of the posthumeral spot. On the variety *jansoni* (fig. 40) all the markings on the upper-surface have disappeared, with the exception of a small spot on each elytron. And on two specimens before me the upper-surface is entirely dark; one of these was labelled as *frontalis*

(28) In North-Western Australia the species is commonly referred to as the W-beetle.

by the late Rev. T. Blackburn. Not all the varieties before me are here figured; indeed, to do this would mean that almost every specimen would have to be done, but the selection given sufficiently indicates the great variability of the species. The markings are sometimes different on the different sides of an individual. The markings on the head, pygidium, under-surface, and legs are also extremely variable. The markings on the female are usually less in area than on the male, and her head, scutellum, pygidium, and abdomen are not uncommonly entirely black.

CHLOROBAPTA BESTI, Westw.

Pl. ix., figs. 52 and 53.

A species apparently confined to Victoria and the southern parts of New South Wales. The markings are sometimes almost identical with those of *tibialis*, but the hind tibiae of the male are utterly different to those of that species.

CHLOROBAPTA TIBIALIS, Lea.

tibialis, Moser.

This species was described by myself in 1911. In the following year it was described under the same name by Herr J. Moser.

The female differs from the male in being somewhat stouter, less of the head and under-surface green, each of the spots on the pygidium without a median black spot, abdomen evenly convex along middle, front tibiae more acutely tridentate, middle tibiae thinner, with an acute median tooth, claws of middle tarsi of even size and shape, hind tibiae thinner, much less hairy, not dentate on lower-surface, but with an acute median outer tooth, and apex acutely dentate and bispinose.

The female is rather wider than the female of *besti*, the prothorax more transverse with somewhat smaller punctures, the markings of a much brighter shade of green, and the mesosternal process considerably larger.

CHLOROBAPTA HIRTIPES, n. sp.

Pl. vi., fig. 5.

♂. Black, with dark-green markings. Under-surface in parts with moderately long hair; hind tibiae with a conspicuous fringe of long black hair on one side, and on the other a fascicle at base and another at apex.

Head constricted behind eyes, with dense and fairly coarse punctures between eyes, becoming smaller on neck. Clypeus about as long as wide, a depression towards each

side, the sides themselves and the apex somewhat raised and thickened, apex feebly incurved to middle; punctures sparser than between eyes. Club as long as clypeus is wide. *Prothorax* not much wider than long, basal half almost parallel-sided, thence oblique to apex; medio-basal sinus fairly deep, about two-thirds the width of each of the others; with small scattered punctures, becoming larger on sides. *Scutellum* with a few punctures about base. *Elytra* considerably wider than prothorax, posthumeral incurvature strong, sutural stria deep; each elytron with four irregular rows of punctures and some irregular ones on sides, the second and third rows within a shallow depression. *Pygidium* very obtusely pointed, rather lightly concentrically strigose. *Abdomen* feebly depressed along middle. Front *tibiæ* tridentate; middle ones stout, apex bidentate and unispinose; hind ones stout, somewhat curved, apex produced on one side, but neither dentate nor spinose, claws of middle tarsi of unequal shapes. Length, 24 mm.

Hab.—New South Wales: Richmond River. Type in National Museum from F. H. duBoulay.

Allied to *tibialis* and *besti*, and with middle tarsi much as in those species, but readily distinguished by the apex of the hind tibiae. In the male of *besti*, as also of *frontalis*, the hind tibia is scarcely continued beyond the insertion of the tarsus, and is armed with two strong spurs; in *tibialis* there are no spurs, but the apex is much more acutely produced, near the base also the tibia is much stouter and is strongly armed. In the present species there are no spurs at the insertion of the tarsus, but the apex is continued as a flange beyond the same; from some directions it appears as if the tibia had been split down the middle to the tarsus, and then one-half snapped off. With the tarsus continuing the line of the tibia, however, this appearance would be partially concealed. The mesosternal process is not quite as obtuse at the apex as in *besti* or *tibialis*, but much less sharp than in *Eupæcila australasiae*. On the type there is a fairly wide green space across the base of the clypeus; the greater portion of the elytra is green, with the suture and sides, a dilated portion of the sutural marking close to the scutellum, a postmedian quadrangular space attached to the suture, an irregular preapical fascia, and the shoulders black; the pygidium is green with a spot on each side, the apex and a median line black, the lateral edges of the hind coxæ and part of the sides of the mesosternum are green; as is also a line across the penultimate segment of abdomen. The prothorax is entirely black, except for a small, vague, transverse, reddish spot, in each hind angle.

The males of *Chlorobapta* may be thus tabulated:—

| | |
|--|------------------|
| Hind tibiæ bispinose at apex. | |
| Claws of middle tarsi alike in shape ... | <i>frontalis</i> |
| Claws of middle tarsi not alike in shape | <i>besti</i> |
| Hind tibiæ produced but not bispinose at apex. | |
| Hind tibiæ stout and strongly dentate near base | <i>tibialis</i> |
| Hind tibiæ not dentate near base | <i>hirtipes</i> |

CLITHRIA EUCNEMIS, Burm.

Pl. viii., figs. 41 to 48; pl. ix., figs. 49, 50, 51; pl. xiii.,
figs. 148, 149, 150, 158.

var. *albersi*, Kraatz.

var. *nigricollis*, Kraatz.

This species is very variable both sexually and individually; and Victorian specimens, as a rule, are larger than those from Queensland.

The male has very peculiar hind legs (fig. 158), utterly different to those of any other Australian *Cetonid*. His front tarsi also have a fringe of long and curious hairs, but it is much more pronounced on some specimens than on others. The hind tibiæ have a tooth at the base, but it varies considerably in size and acuteness. The clothing of the upper-surface is also denser on the male than on the female. One female has the upper-surface almost glabrous, but this may be due to abrasion.

The prothorax of the type had two black vittæ, and several such specimens are before me, in others the vittæ are conjoined, and on others the pale markings are represented by small, pale, isolated spots. On the elytra there are usually six black spots, usually connected with the suture, which itself is black; there is also a spot on each shoulder, but these are sometimes conjoined to the subbasal ones. The pygidium is dark on each side, and sometimes along part of the middle as well.

The female is usually larger than the male and frequently has the prothorax entirely black, but that segment is also sometimes bivittate, or with disconnected pale spots. The scutellum is sometimes entirely black, but often has a pale spot. The elytral spots are usually considerably larger than on the male, and are sometimes so extended that they cover much more of the surface than the pale portions; these, on one Victorian specimen, consisting of four disconnected spots only. The pygidium sometimes is entirely black, or varies as in the male.

The type of *albersi* (from North Australia) was described as having the humeral and median spots smaller than the others. This is occasionally the case, but usually the median spot is the largest of all. In the figure it is also shown as isolated. This is also sometimes the case with the typical form, but it is usually joined to the suture. The pygidium was described as brown with the sides testaceous, but in the figures of both sexes the pygidium is shown as being dark in the middle, and on each side of same pale, with outer parts again dark. I cannot regard it as more than a variety of *eucnemis*.

Nigricollis was described as a variety, but evidently from a common form of the female of *eucnemis*. No locality for it was given.

Burmeister⁽²⁹⁾ stated that *Schizorrhina obliquata*, Westw., was the female of *eucnemis*; but in this he was in error.

NEOCLITHRIA EBURNEOGUTTATA, Blanch.

incana, MacI.

Pl. xii., fig. 116.

A damaged female from Dalby has spots somewhat darker than as described, but in the correct positions. This specimen agrees well with Macleay's description of *Cetonia incana*, except that it is slightly smaller.

POLYSTIGMA OCTOPUNCTATA, Burm.

ochracea, Westw.

Pl. vii., figs. 25 to 28.

This species has a small black spot on each side of the prothorax, but on the elytra the markings are somewhat variable. There is, however, always present on each elytron a transverse spot just beyond the middle, and a rounded one close to apex; adjoining the scutellum there is a narrow streak sometimes appearing to be part of the scutellum itself; close to this there is usually a small oval spot, occasionally connected with the black streak, but occasionally absent altogether. The shoulders are usually immaculate, but sometimes there are two (or one) minute blackish spots on each; on one specimen before me (fig. 26) there are two spots on the right shoulder, and none on the left. On the pygidium there is always a conspicuous black spot. On the abdomen and sterna the black or infusate parts are also variable.

Burmeister recorded the name *octopunctata* as a manuscript one of Hope's. Westwood in describing *ochracea* said, "Whether this be a variety of *octopunctata*, Hope, M.S., I have not at present means of clearly determining; it seems,

(29) Handbuch der Entomologie, iii., p. 799.

however, to agree in general with Burmeister's short description, except in the maculation of the prothorax and elytra." Burmeister, however, described the prothorax as having a black spot on each side, so that practically the only difference in the markings of the types of *ochracea* and *octopunctata* was on the shoulders, and as noted above these are very variable. Although Burmeister in the Latin portion of his description mentioned but eight spots, in the German portion he mentioned eleven (including the one on the pygidium). He referred the species to *Eupacila* and Kraatz transferred it to *Polystigma*. *Ochracea* was referred to *Schizorrhina* and transferred by Thomson to *Neorrhina*. Apparently it was known by the description and figure only to Kraatz.

Froggatt in his "Australian Insects" (p. 161) says "a second species, described under the name of *octopunctata*, is, I think, only a variety" of *punctata*. This is an error, the species is abundantly distinct from *punctata*, apart altogether from the markings.

The type of *ochracea* was a male, as the front tibiæ were figured as being armed at the apex only. The female differs in having the legs shorter, front tibiæ strongly tridentate, the other tibiæ each with a more pronounced postmedian tooth, and the abdomen wider and evenly convex along middle.

POLYSTIGMA PUNCTATA, Don.

Pl. ix., figs. 54 to 57; pl. xiii., figs. 151, 152, 153.

This species occurs in abundance in the coastal districts of New South Wales, and extends to the far north of Queensland. In Victoria it appears to be rare. The size ranges from 10 to 16 mm.; and Queensland specimens are usually smaller than those from New South Wales.

Perhaps the most typical form is that shown as fig. 56. On the prothorax there are frequently seven disconnected black spots, but often two of these on each side are connected together, sometimes three on each side are so connected, and on a specimen (fig. 57) in the National Museum, Melbourne they are all connected; this specimen also has the black markings of the elytra greatly extended. On an occasional specimen there are nine prothoracic spots. On each elytron there are usually five disconnected spots, with an additional transverse one connected with the suture towards the apex; but often two or more of the spots are joined together. The spots on the pygidium vary in number from three to seven.

The trisinauation of the base of the prothorax is less pronounced than in many other *Cetonides*, but Kraatz was certainly incorrect in describing the base as "fere rectilinea" in his generic diagnosis of *Polystigma*.

POLYSTIGMA CALOPYGA, n. sp.

Pl. vi., fig. 6; pl. xiii., fig. 184.

♂. Head black; clypeus flavous, with two conspicuous black stripes; prothorax black, the margins (but neither the extreme base nor apex) rather narrowly flavous; scutellum flavous, the base partly black; elytra flavous, suture and sides, a large spot on each side of scutellum, a submedian fascia (connected with suture and sides), a large subapical angular spot on each (narrowly connected with suture), and the shoulders black; pygidium flavous, base and apex red, and three or five spots black, but red where joined to the basal and apical red. Under-surface reddish, in parts black; parts of hind coxæ, and of sterna, and the mesosternal process flavous; appendages more or less red, the hind tarsi almost black. Under-surface densely clothed in parts with whitish hair.

Head with fairly dense punctures. Clypeus subcordate, apex moderately notched, tips rounded, near sides vaguely depressed; punctures rather denser than on head. Club almost the width of base of clypeus. *Prothorax* rather strongly narrowed from base to apex, margins rather strong, sides lightly bisinuate, medio-basal sinus rather strong, about two-thirds the width of each of the lateral ones; disc with small and sparse punctures, becoming denser and in places strigose on sides. *Scutellum* with a few small basal punctures. *Elytra* with prominent shoulders, posthumeral incurvature strong, base with several narrow striæ, one of which on each side is continued past the scutellum, and becomes the sutural stria; with small punctures in feeble rows, apex and sides from about the middle transversely or obliquely strigose. *Pygidium* densely, concentrically strigose. *Abdomen* gently incurved to middle from base and apex, vaguely depressed along middle. *Mesosternal process* rather acutely produced and curved in front. *Legs* long, front tibiæ strongly dentate at apex only, hind pair with a transverse ridge slightly nearer apex than base. Length, 13-13½ mm.

Hab.—Australia (National Museum, Melbourne, from C. French); Queensland: Cooktown (Blackburn's collection). Type, I. 1482, in South Australian Museum.

The type bore a label in the late Rev. T. Blackburn's writing, "*Eupacila*?" Its mesosternal process, abdomen, and legs, however, are more in agreement with those of *Polystigma*, from all the described species of which it is very different in its markings. These are all connected together on the elytra, but the suture and shoulders in places appear to be diluted with red. When viewed obliquely from above the pygidium appears to have a conspicuous flavous V, the black median

spot is strongly narrowed to its apex, the lateral ones on one specimen are connected together, so as to appear like a very irregular vitta, but on the other they are disconnected externally.

TRICHAULAX PHILIPSII, Schreib.

This species is variable in size, in clothing, and in colour of prothorax. The smallest specimen now before me measures 19 mm., the largest 37 mm.

The prothorax in the typical form is of a dingy-red, with the margins black, but the two colours are usually not sharply limited. Most specimens, however, have the prothorax entirely black.

The clothing varies from almost white, to a conspicuous rusty-red or ochreous. On small specimens the prothorax, whether red or black, is often rather densely clothed, except in the middle; but the sides are sometimes sparsely clothed, even on large specimens. Mostly, however, the prothorax is glabrous. The clothing to a certain extent appears to be deciduous, or at least specimens that have been in spirits for some time are generally less densely clothed than those that have not been so preserved. The extremely active lives led by specimens also probably causes much of the clothing on the prothorax and other unprotected parts to be quickly abraded. Counting from the suture, the first and second hairy grooves are generally conspicuously separated at the base, but on some specimens (particularly on small and very hairy ones) the two appear to be conjoined at the extreme base. This appearance is due to the hair being continued to the base itself, the grooves themselves not being so continued.

The size and density of the punctures are also variable.

Seen from behind the elytra appear to be supplied with five shining ridges, wide at the base and gradually narrowing posteriorly. In addition a less distinct and shorter ridge is present towards each side, but is frequently partly or entirely concealed by the clothing. Of the ridges the three outer ones on each elytron are conjoined to form the pre-apical callus; the seventh ridge is the suture, and posteriorly is usually concealed. At the base the two outer hairy grooves (frequently appearing as but one) on each side, are deflected obliquely downwards, so as almost, or quite, to touch the side near the base.

The male differs from the female in having a wide depression along the abdomen (the female is regularly convex there); the prothorax is less transverse, the elytra are somewhat narrower posteriorly, and the front tibiae are less conspicuously dentate, the teeth (except the apical one) being

very feeble or altogether absent. The clothing also is generally denser on the hind tibiæ, than on those of the female.

The type was described as having the prothorax "piceo marginibus atris" and the elytral grooves as filled with fulvous hairs. The exact length was not stated, but the figure, apparently life-size, measures 34 mm. The figure also has the prothorax coloured a dingy-red.

Carinata. I have not referred to the original description of *carinata* (noted as a variety in Masters' Catalogue), but in one of the late Rev. T. Blackburn's note-books, reference is made to the fact that *carinata* was "deliberately founded upon the type of *philipsii*."

Schreibersii. A specimen, sent to me as *schreibersi* by Mr. Arrow, agrees very well with the typical form, and agrees well with Thomson's description. It does not appear to be worthy of even a varietal name. Thomson gave its length as 29-31 mm., and stated that it was larger than *philipsii*, evidently having a small specimen of the latter before him. In Masters' Catalogue the name appears under *Schizorrhina*.

Kirbyi. This is the commonest form of the species. It has the derm entirely black, and clothing pale-flavous.

Donovani. This variety was named from a small specimen with the prothorax red and hairy. A specimen that agrees very well with Thomson's description is in the South Australian Museum, labelled as *carinata* in the late Rev. T. Blackburn's writing; it measures 23 mm. A still smaller (19 mm.) specimen is in the National Museum, Melbourne.

Macleayi. This form appears to be common in the Cairns district and elsewhere in Northern Queensland. Specimens are usually large, with the clothing conspicuously reddish-ochreous, and usually concealing the outer ridge on each side of the elytra. It is a glorious variety. A female of it from the late Rev. T. Blackburn's collection was marked as having been named by Kraatz. It was recorded as from Western Australia, but probably in error. So far as I am aware no specimen of the species or any of its varieties have been taken elsewhere than in Queensland, New South Wales, Victoria, or South Australia. As regards the latter State, there is a specimen of the variety *kirbyi* labelled as from Hahndorf.

TRICHAULAX CONCINNA, Janson.

A specimen from Carnot Bay, of this beautiful species, is in the National Museum, Melbourne. It has a wide, shallow depression along the middle of the abdomen, and so is a male. Janson noted certain parts as having a coppery tinge; but all parts of the Carnot Bay specimen have a coppery tinge in certain lights.

TRICHAULAX MARGINIPENNIS, Macle.

Of this species Macleay says "not very shining"; but specimens in good condition are quite highly polished. Macleay also described the elytra as having a broad margin of yellow pubescence, and the under-surface as having greenish-yellow clothing. On specimens in good condition, however, the clothing is quite white.

SCHIZORRHINA ATROPUNCTATA, Kirby.

Pl. ix., figs. 58, 59, 60; pl. xiii., fig. 188.

This species usually has three round spots on each elytron, two postmedian and one subapical; sometimes there is an additional spot close to the scutellum, and sometimes only the two postmedian ones are present. A specimen in the National Museum, Melbourne (fig. 58) has three spots on the right elytron, and four on the left. Mr. W. D. Dodd has recently taken two specimens at the Coen River, each of which has five spots on each elytron, the extra one being on the shoulder.

In the female the middle of the metasternum is produced to in front of the middle coxæ, then there is a bisinuate suture with the mesosternal process projecting forwards to between the front coxæ; the whole of the produced parts being glabrous. In the male the process is distinctly shorter, and is clothed to the bisinuate suture.

var. IMMACULATA, n. var.

From Northern Queensland there are now before me five specimens (and I have seen others) that differ from the typical form in being of a dingy greenish-yellow and with the elytra immaculate. Part of the metasternum is blackish and part of the abdomen reddish. The sexes differ as in the typical form.

Hab.—Kuranda (National Museum, Melbourne, and H. H. D. Griffith from F. P. Dodd), Cairns (E. Allen), Coen River (H. Hacker).

LYRAPHORA OBLIQUATA, Westw.

Pl. ix., figs. 61 to 64; pl. xiii., fig. 185.

This is a very variable species, both sexually and individually. The males vary in length from 13 to 18 mm., the females from 17 to 20 mm.

On the male there is usually an irregular black M on the prothorax, usually connected with the base at two places, but sometimes at three, and occasionally completely divided down the middle. On each elytron there is an oblique vitta from the shoulder to beyond the middle, strongly narrowed at its middle, and then dilated till it touches the suture and

margin. Beyond this there is a disconnected spot with an angular frontal projection.

On the female the prothoracic markings are generally smaller than on the male. On the elytra they are sometimes similar, but the oblique vitta on each elytron is frequently broken up into two spots, of which the postmedian one appears (with its fellow on the other elytron) as a more or less zig-zag fascia, but sometimes the apical portion appears as a small disconnected spot of irregular shape. The markings on the pygidium also vary considerably in size.

LYRAPHORA BASSII, White.

Pl. x., fig. 69; pl. xiii., fig. 186.

All the specimens that I have seen of this species have two black spots on the prothorax and three on each elytron; as on the type. The spots are always in the same positions and vary but slightly in size.

LYRAPHORA VELUTINA, Macl.

Pl. ix., figs. 65 to 68.

On this species there is a more or less M-shaped blotch on the prothorax, that is but seldom broken up into spots. On each elytron there are usually four spots: one on shoulder, one touching the hind margin of the scutellum, one (usually transverse) just beyond the middle, and the fourth close to apex. The third spot is sometimes joined to the suture, but is usually free. On a specimen in the National Museum, Melbourne (fig. 65), it is joined to the second spot. One small male (fig. 68) is without the humeral spot.

Three of the specimens before me have the derm shining; but this was probably caused by improper treatment.

LYRAPHORA VITTIVARIA, n. sp.

Pl. vi., fig. 7; pl. x., fig. 70.

♂. Flavous; head (except for a subtriangular space in front of the clypeus), a large irregular somewhat M-shaped blotch on prothorax (connected in two places with the base), margins of scutellum, suture, sides, and some markings on elytra, base, apex, and some spots on pygidium and under-surface (except some spots at the sides and the mesosternal process) black.

Head with rather small, irregularly-distributed punctures. Clypeus ridged towards each side, but the sides themselves rounded, apex moderately notched; punctures more distinct than on head; club about as long as the space between eyes. *Prothorax* with sides rather strongly diminishing in width from base, hind angles strongly rounded; medio-basal

sinus not very deep, not much narrower than each of the lateral ones; sides with fairly large punctures, but disc almost impunctate. *Scutellum* almost impunctate. *Elytra* considerably wider than prothorax, posthumeral incurvature moderate, sides of abdomen not concealed from above, suture scarcely mucronate at apex. *Pygidium* obtusely pointed, and densely, concentrically strigose. Abdomen vaguely depressed along the middle. Mesosternal process lightly produced, the tip rounded. Front *tibiæ* strongly dentate at apex only, middle pair slightly thickened but not dentate in middle, the hind pair with a dentiform ridge near middle. Length, 15-15½ mm.

Hab.—Queensland: Coen River (H. Hacker). Type in National Museum, Melbourne, from C. French.

It is with some hesitation that I describe the two specimens before me as representing a new species, rather than a variety of the very variable *obliquata*. They differ, however, from males of that species in having the upper-surface opaque instead of shining (but one specimen has parts of the upper-surface shining), the abdomen entirely black except for some marginal spots, and the legs paler. The pale portions of each elytron also are all connected together, instead of being isolated from each other into two or three parts. On the type the prothoracic blotch has a triangular notch at its apex, on the other the notch is continued almost to a transverse subbasal pale space. On each elytron of the type there is a somewhat dumb-bell-shaped oblique vitta from the shoulder to beyond the middle, almost connected with the side but distinctly separated from the suture; near the apex there is a large spot, rounded behind and with a pointed projection in front; adjoining the scutellum there is a large spot, and there is a narrow black mark on the hind portion of the suture. On the second specimen the discal markings on each elytron are connected together, and also connected with each other by way of the postmedian sutural mark which is larger than on the type. On the type there are four disconnected spots on the pygidium, on the other there are but two. The upper-surface is covered with an opaque indumentum, which partially or entirely conceals the punctures. On the elytra there appear to be feeble rows of shallow punctures, but where the indumentum has been rubbed away these become much more distinct.

ABLACOPUS TRAPEZIFER, Thoms.

Pl. x., fig. 71; pl. xii., figs. 126 to 131; pl. xiii.,
figs. 154, 155, 156, 165, 166, 167.

This species is fairly common in Northern Queensland, and varies in length from 17 to 25 mm. The prothoracic

blotch varies from entire and more or less subtriangular in shape, to somewhat M- (or reversed W-) shaped, with the parts sometimes disconnected. The scutellum varies from pale with very narrow black margins to entirely black. The abdomen is sometimes of a very dark red without side spots, but is usually black, with conspicuous flavous spots at the sides. The pygidium is immaculate, or with a conspicuous somewhat elongated black spot on each side (on some specimens the spot on each side is not black, but has a vague watery appearance, although of the usual shape, size, and position). On two females the lateral spots are absent, but there is a minute black spot on each side of a faint medio-basal extension. The femora and tibiae are usually pale with dark tips; but the tibiae are sometimes entirely dark.

A female in the National Museum, Melbourne, has the elytra (except for the sutural marking) entirely of a deep chestnut-red. Another female (fig. 71) in that Museum has the prothoracic blotch connected along the middle with the base, each shoulder and the subapical callosities black; the sterna (except for a minute spot on each side of the mesosternum), abdomen, and pygidium black (the latter with the conspicuous subapical carina of the females of the species), and the legs black except for a narrow border in front of the hind femora, and the lateral margins of the hind coxæ. The clypeus has a pale spot on each side, with a minute black spot in the middle of each. A male, in the same Museum, has a vague dark cloud on the suture from just beyond the middle to near the apex. Another male, in the same Museum, was labelled *Chondropyga notabilis* and as from Western Australia. But the locality and identification are almost certainly incorrect. It differs in many respects from the description of *notabilis*. On its prothorax there is a well-defined M (fig. 128).

ABLACOPUS, sp.

Pl. xiii., fig. 157.

There are three specimens before me that I hesitate to associate with either *tæniatus* or *trapezifer*, although they probably belong to the latter species. They all have the intercoxal process of the mesosternum decidedly wider than is usual in those species. Fig. 131 will give a general idea of the prothoracic blotch, which is very similar on all three.

A male (17 mm.) from Cairns, from Mr. Cox's collection, has the front tibiae tridentate, as on the female of *trapezifer*, the middle femora moderately fringed behind and feebly in front, the legs dark-red, with tibiae darker than femora, and the tarsi black. Its pygidium has the usual two black spots.

A female (19 mm.) in the National Museum, Melbourne,

has the clypeus entirely dark; the pygidium (fig. 157) widely black at base and apex, leaving a transverse pale portion without spots, and its apex is non-carinate. The under-surface and legs are dark-red and immaculate.

A female (21 mm.) from Stannery Hills, New South Wales,⁽³⁰⁾ in Mr. French's collection has the head, prothorax, pygidium, under-surface, and legs much as in the preceding specimen, but the scutellum is not entirely black, and the elytra are paler on the apical third than on the basal two-thirds.

ABLACOPUS TÆNIATUS, Schoch.

Pl. x., figs. 72 to 75; pl. xiii., figs. 163, 164.

The typical form of this species is sufficiently distinct from the typical form of *trapezifer*. But both species vary considerably in size and markings, and it is not always easy to separate them. But as a rule the males may be distinguished by the middle femora, and the females by the pygidium.

On the male of *trapezifer* the middle femora each have two fringes of long hairs on the under-surface, the space between the fringes being quite glabrous, sometimes but one fringe is distinct, the second being represented by a few short setæ only, but the space between is always glabrous. On *tæniatus*, on the contrary, the interspace is very densely clothed, so that the whole of the under-surface of the femur appears like an elongated pad.

On the female of *trapezifer* the lower portion of the pygidium has a distinct median carina, of which there is no trace on the female of *tæniatus*.

The specimen doubtfully figured by Janson (Cist. Ent., ii.) as *Diaphonia notabilis* almost certainly belongs to *tæniatus*. I have seen three females agreeing perfectly with the figure. One of these has the two apical segments of abdomen partly yellow (although not yellow margined with black), but the others have those segments entirely black.

The prothorax on the type of *tæniatus* (but not of *notabilis*) had a stripe on each side pale, with the black blotch connected with base and apex. Three such specimens (all males) are before me, on another male there are three small pale spots along the middle (fig. 73), but the blotch is connected also with both base and apex. On all the females⁽³¹⁾ the blotch is disconnected with the margins and has a pale stripe or elongated spot down the middle (as figured by Janson).

⁽³⁰⁾ It is the only specimen of the genus that I have seen from that State.

⁽³¹⁾ Except the specimen from the late Mr. Elgner.

The scutellum varies from pale, with very narrow black margins, to entirely black. The elytra vary from a form with the suture narrowly black, and shoulders not spotted, to forms with a fairly wide sutural stripe, and a distinct spot on each shoulder. One male, in the National Museum, Melbourne, has the humeral spot black, with the sides thence to the apex irregularly mottled with brown, of a sufficiently dark shade to cause the space between it and the sutural patch to appear conspicuously striped (fig. 74).

The pygidium in the female is pale, with very narrow black margins, and sometimes with a medio-basal spot connected with the base. On the male there is a distinct black spot on each side, and the medio-basal spot is more distinct than is usual in the female. The sterna and abdomen are black with pale spots on the sides. The hind femora are usually black with the front margin pale; but on one male they are entirely pale (although darker on the lower than on the upper parts). On this specimen also the four front femora and four hind tibiae are obscurely diluted with red in places. The clypeus varies from almost entirely pale, to about three-fourths black. The front tibiae of the female are tridentate, but on one specimen the subapical tooth is very feeble, and on others they are apparently identical with the front tibiae of the male. The size varies from 17 to 19 mm.

A female from Northern Queensland (from Mr. Elgner) seems greatly aberrant, as the only parts that are pale are an irregular patch on each side of the clypeus, a narrow flavous border on each side of the prothorax, the pygidium (except at base and apex), some spots at the sides from mesosternum to apex of abdomen, a spot on the mesosternal process, and an irregular mottling of the hind femora. But as I cannot distinguish it structurally from other females, presumably it is a variety of the species, despite its entirely black elytra and scutellum.

ABLACOPUS ATER, Schoch.

Pl. xii., figs. 117, 118, 119.

This species was made the type of a new genus (*Anthracopharis*) by Schoch, who stated that it would not fit into any previously known one. It is, however, absolutely congeneric with *Albacopus trapezifer*, originally referred by Thomson to *Diaphonia*, but subsequently made the type of his new genus *Ablacopus*. In fact, I am unable to define a single structural feature by which a specimen, sex for sex, may be distinguished from *trapezifer*.

There are now before me seven males and two females (the latter sex was unknown to Schoch), ranging in length from 20 to 25 mm. Of these three males agree with the type

in being entirely black; one is black except for a spot on the clypeus; another is black except for a similar spot, and some vague spaces on the elytra near the suture about base and apex; another has a spot on the head, a fairly large irregular space on each side of the prothorax, and a vague oblique space on each elytron from the shoulder to near apex obscurely diluted with red; the seventh has a fairly large spot on the head (the spot itself with a black circular spot on each side), a minute spot on each side of the prothorax, and much of the elytra pale; the pale portion on each elytron is almost flavous, but clouded in places, it extends from near the base to near the apex, starting at a short distance from the suture, and extending to about one-third from the margins, but with an infusate line for about two-thirds of its length down the middle. Of the females one has an almost equal amount of the elytra pale to that of the seventh male, but the infusate line is wanting, and there is an infusate cloud extending into the pale portion from the posterior half of the suture. On this specimen there is a scarcely traceable spot on each side of the prothorax, and the clypeus has a fairly large pale space, with a distinct black spot on each side, and a vague median line. The other female has a fairly large pale spot on the clypeus, with a distinct black spot in the middle, and an obscure one on each side, its prothorax at first appears to be immaculate, but on close examination a vague spot may be seen on each side. Each elytron has a fairly large space diluted with red along the middle, the markings distinct, but not sharply defined.

Structurally the female differs from the male in being rather stouter, tarsi shorter, front tibiæ tridentate⁽³²⁾ and each of the middle ones as well as the hind ones with a median tooth, its abdomen is strongly convex along the middle, and its pygidium is acutely carinated posteriorly.⁽³³⁾

Hab.—Queensland: Cairns (H. Elgner and H. H. D. Griffith from E. Allen), Endeavour River and Mount Bartle Frere (C. French, and National Museum, Melbourne, from C. French).

MICROPECILA CINCTA, Don.

var. *breweri*, Janson.

An abundant species about Sydney, where in some years it may be seen in thousands on flowers of *Angophora cordifolia*.

⁽³²⁾ One female has the teeth much less acute than those of the other, but the tibiæ show evidences of abrasion by digging.

⁽³³⁾ A rather uncommon feature in the subfamily, but exactly as on the female of *trapezifer*.

Its larval and pupal stages are often passed in rotting cores of plants of the genus *Xanthorrhœa*.

The male has a wide shallow depression along the middle of the abdomen, and is generally somewhat smaller than the female, with the large black blotch of the upper-surface more sharply defined.

I cannot regard *breweri* (whose larvæ also occurs in rotting cores of species of *Xanthorrhœa*) as more than a variety. Specimens from Western Australia (one of which was identified by Mr. Arrow as *breweri*) have the punctures of the clypeus, prothorax, and elytra much as on some Sydney specimens. But Western Australian specimens sometimes have the prothorax and elytra almost entirely reddish-castaneous, the only distinctly dark part of the upper-surface being the scutellum.

var. *MELANCHOLICA*, n. var.

A female (in the National Museum, Melbourne) labelled as from Queensland and F. H. duBoulay, apparently belongs to this species, but is entirely black, except for a minute reddish spot near the top of the pygidium, and two where the hind coxæ almost touch. In all structural details it agrees absolutely with normal females.

CACROCHROA GYMNOLEURA, Fisch.

A specimen (from New South Wales) in Mr. French's collection may be an immature female of this species; it differs from the typical form in having the head in front of the eyes red, the prothorax black with the sides and base of an obscure deep-red; the elytra of a dingy flavous with the suture and shoulders black, narrowly bordered with dingy-red; the pygidium entirely and the abdomen partly red; and the legs more or less obscurely reddish. In all structural details it agrees with normal females.

A male labelled as from Roebourne,⁽³⁴⁾ also in Mr. French's collection, appears to be an unusually small ($13\frac{1}{2}$ mm.) form of the variety *concolor*, with the head and prothorax much hairier than is usual.

CACROCHROA DECORTICATA, MacL.

var. *assimilis*, MacL.

var. *neva*, Gestro.

Pl. x., figs. 76, 77, 78.

The female of this species is much rarer than the male, and has no white clothing on the sides of the prothorax. The

(34) North-western Australia; probably an incorrect locality.

spot on the disc of each elytron is greatly reduced in size (compared with that of the male) or altogether absent, and the white spots on the pygidium are also reduced in size. Such specimens in colour agree well with *obscura*, but have much more defined punctures. On the male the white clothing on the sides of the prothorax is usually continuous, but is sometimes partly or completely divided in the middle. The elytral spots also vary in size and shape.

The species was referred by Kraatz to *Lyrphora*, but was made the type of a new genus (*Camilla*) by Thomson. I cannot regard *Schizorrhina neva* as more than a slight variety of the species.

CACOCHROA VARIABILIS, MacI.

Pl. x., figs. 79 to 84.

There are before me numerous specimens that appear to belong to this species; but they vary considerably in size (14-19 mm.) and colour; and to a certain extent in the elytral punctures; these being much finer on some specimens than on others.

Three colour varieties were described by Macleay. But the sculpture and size were apparently alike on all three; or at least there is no indication in the description to the contrary. Of the supposititious non-variable details in the original description the following may be mentioned: "Femoribus tibiisque posticis subtus villosus," and again, "the inferior margin of the hind thighs and tibiæ are clothed with a uniform thick brush of cinereous hair." Of the elytra, "lineis duabus longitudinalibus suturaque subelevatis glabris." The size of the elytral punctures is nowhere mentioned, but on the head and prothorax they were mentioned as finer than on *gymnopleura*.

Macleay did not describe one form as typical and the others as varieties, but described the species as being composed of three varieties. It would perhaps have been better had he described one form as typical, and the others as varieties, but as he numbered them respectively 1, 2, and 3, it appears desirable with additional varieties to continue his arithmetic.

Var. 1.—A rather small (14 mm.) male from Rockhampton evidently belongs to this variety. Its hind legs are as described, and its elytral punctures are fairly coarse and in somewhat irregular rows, extending neither to base nor apex. Two females, from Cairns, of the variety, differ in being larger, with much finer and scarcely-seriate elytral punctures, and only the hind tibiæ densely fringed, although about the base of each of the four front femora there is a fairly conspicuous fringe.

Var. 2.—A specimen (fig. 79) labelled as *variabilis* by the late Rev. T. Blackburn, evidently belongs to this variety. It is of a deep-red, with the base of the head, two large prothoracic spots, the scutellum, and a sutural vitta black; the vitta is wide at the base and is regularly narrowed till it disappears at the apex. It is a male and has the femora and hind tibiae fringed as noted under var. 3. Three specimens, two of which are from Cairns, are females of this variety, and one (fig. 80) is labelled *variabilis* by the late Rev. R. L. King, but without locality other than Queensland. They are of a still deeper red than the male, one being so dark that the black prothoracic spots (which on it are of greater size than usual) are very ill-defined. The scutellum is obscurely diluted with red, and the suture is very narrowly black. Two have the pygidium mostly red, but on the other it is black. The elytra are without elevated lines of any kind, except the hind portion of the suture, but they are feebly undulated in places; their punctures are also noticeably smaller than on the male, being, in fact, very small. The femora are feebly fringed, but the hind tibiae are almost as densely fringed as in the male. Two other females have the hind tibiae feebly fringed, but otherwise they agree with the two having the pygidium red.

Var. 3.—Two other specimens evidently belong to this variety. One (fig. 81) bears a label by the late Rev. R. L. King, "*Eupæcila variabilis*, McL., Port Deniston" ⁽³⁵⁾; the other was labelled, "2076, *variabilis*, MacL.," by the late Rev. T. Blackburn. They are males and have the hind tibiae and femora densely fringed on the lower-surface; their four front femora are also fringed, but less conspicuously so. The front tibiae have a strong apical tooth and a feeble subapical one. Their legs are mostly red, the tarsi and hind tibiae being black or blackish. The amount of dingy-red at the sides of the prothorax and elytra varies. One has the pygidium black, and the other only partly so. The suture is distinctly elevated posteriorly, but the other longitudinal elevations are very feeble. I have seen no females of this variety.

Var. 4.—A female (fig. 82) from Northern Queensland, in the National Museum, Melbourne, evidently represents another variety. It is black with the apical half of head, sides and apex of prothorax, elytra (except for a wide sutural vitta), and most of pygidium and of legs of a deep-red. Only its hind tibiae are densely fringed. A specimen, from Kuranda, in Mr. Griffith's collection, is very similar in general appearance, but has the elytra entirely of a deep-red, and the pygidium black but obscurely diluted with red in the middle.

(35) Port Denison was the type locality.

Var. 5.—Another variety (figs. 83, 84) is common in the Cairns district. It is of a rather pale-castaneous, with each side of base of head, two prothoracic spots of variable size, scutellum (wholly or in part), sterna (except the sides and the mesosternal process), and abdomen black. On each side of the prothorax also there is sometimes a small infusate spot. The male has the hind femora and tibiæ densely fringed on the lower-surface, and the other femora moderately fringed. The female has the femoral fringes much less conspicuous, and the fringe on the hind tibiæ very feeble. Both sexes have the punctures of the upper-surface rather more conspicuous than usual, although much smaller than on *gymnopleura*. One of the females, in Mr. French's collection, is labelled as from York (in Western Australia), but this is certainly an error, probably Cape York in Queensland was meant.

Disregarding colour the females of the species differ from the males in being larger, elytra distinctly wider, less narrowed posteriorly and with decidedly finer punctures; abdomen evenly convex instead of depressed along middle and hind legs with their femora much less conspicuously fringed than their tibiæ, or sometimes with both femora and tibiæ feebly fringed. The differences in the dentition of the front tibiæ are slight and apparently somewhat variable.

CACOCHROA PULLATA, Janson.

There are five specimens from the Endeavour River, under examination, that agree with the description of this species except as regards the colour of the femora, which were described as having "a large rufous patch." Three⁽³⁶⁾ of the specimens have the femora entirely dark, one has all the femora more or less obscurely diluted with red, and the other has the hind femora only partly diluted with red. The size ranges from $16\frac{1}{2}$ to 19 mm.

Janson stated that it was most nearly allied to *variabilis*; in general appearance it is, in fact, close to var. 1 of that species, but the clothing of the hind legs is very different. It was made the type of a new genus (*Aphanesthes*) by Kraatz, who described the mesosternal process as "latus, obtuse rotundatus." That of *Cacochroa* being "modice productus, angustus, acuminatus." The clypeus of the latter was "fortiter," that of the former "leviter emarginatus." As a matter of fact, the clypeus and mesosternal process are much alike in *pullata* and *gymnopleura*.

(36) Two of these were labelled as *pullata* by the late Rev. T. Blackburn.

CACOCHROA VARIICOLLIS, n. sp.

Pl. xii., figs. 132, 133, 134.

♂. Black, elytra of a dark-red, suture and sides infuscated; appendages more or less obscurely diluted with red. Under-surface rather lightly clothed but the middle femora densely clothed on the lower-surface.

Head almost impunctate near base, with moderately coarse punctures between eyes, becoming still coarser on clypeus. Clypeus with almost parallel lateral ridges, apex rather obtusely notched with the tips widely rounded. Club about the width of clypeus. *Prothorax* with sides lightly bisinuate but strongly decreasing in width from near base, medio-basal sinus rather shallow, about two-thirds the width of each of the lateral ones; with very small punctures, and scattered ones of larger size, but still small, a few fairly coarse ones on sides. *Elytra* distinctly but not much wider than prothorax, suture depressed towards base and elevated posteriorly; with numerous rows of distinct but not large punctures, in places transversely confluent, apex and sides near apex transversely strigose. *Pygidium* obtusely pointed, densely, concentrically strigose. Abdomen with a wide and fairly deep median depression. Mesosternal process moderately produced, and obtusely pointed. Front *tibiæ* with outer margin incurved from middle to apex, which is strongly dentate; middle pair with apex triangularly bidentate and bispinose; hind pair with a median ridge, and with the apex wide and lightly sinuous. Length (♂, ♀), 17-20 mm.

♀. Differs in being more robust, elytra less narrowed posteriorly, pygidium more transverse, abdomen strongly convex along middle, with the sides less concealed by the elytra, front *tibiæ* bidentate, the middle ones dentate about middle, spurs to hind *tibiæ* larger and less acute, and middle femora less densely clothed.

Hab.—Northern Queensland (H. Elgner): Ayr, Ingham (C. French), Endeavour River (National Museum, Melbourne, from C. French).

Allied to *variabilis*, but differs in having larger punctures on the head and elytra, and the posthumeral incurvature much less pronounced. On the female the front *tibiæ* are somewhat differently armed, and the others are different at apex. The front *tibiæ* of the male are very differently armed, and the legs differently clothed. The colour of the elytra is of almost the same shade as the second variety of that species. The colours as described apply to four, of the seven, specimens under examination. The others (all from the Endeavour River) differ as follows:—

1. Prothorax (fig. 132) with a large discal reddish-castaneous space, the space connected with the margins (which also are narrowly reddish), except for a slight submarginal infuscation. Pygidium obscurely reddish across middle. Middle tibiae and hind femora paler than the rest of the legs.

2. Prothorax (fig. 133) with the discal mark distinctly connected with the margins. Pygidium red, with a triangular mark attached to the base. Legs almost entirely reddish.

3. Prothorax (fig. 134) almost entirely red, elytra clouded with black over most of the surface. Pygidium paler but otherwise much as on preceding specimen. Abdomen with a flavous spot at the side of each of the four basal segments. Legs mostly red.

DIAPHONIA NOTABILIS, White.

The type of this species was recorded as from New Holland, in a paper in which species from both sides of the continent were described; and, from the paper itself, there is no authority to record it from Western Australia, as was done in Masters' Catalogue.

Janson figured, as doubtfully a female of this species, a specimen from Cape York, in which the prothoracic blotch has a pale median mark. This form I believe to be *Anthracopharis taeniata* (see notes under that species). If he correctly identified it then *taeniata* must fall as a synonym.

Kraatz gives *notabilis*, of White, as the male, and *notabilis*, of Janson, as the female, of one species; which he refers to his new genus *Chondropyga*. But it is to be noted that the front tibiae of the type are figured as distinctly bidentate, and therefore presumably it was a female (in *Ablacopus*, however, the front tibiae are not always to be relied upon as sexually distinctive). All the specimens that I have seen and believe to be *taeniata* have the prothoracic blotch joined to both base and apex in the male; and (with one exception) isolated with a median spot in the female (as figured by Janson but not by White).

White described the clypeus as having four small obscure spots in front; many specimens of *taeniata* and *trapezifer* have such spots, but others have but two isolated ones, or all may be more or less merged in the general colour. He also states that the species "seems to be allied to . . . *succinea*." In fact, the figure given is much like several specimens of *succinea* before me, and the abdomen of many of these agree with his description; but I have never seen a specimen of that species with a spotted pygidium, although the prothoracic markings are variable and are usually absent.

DIAPHONIA SUCCINEA, Hope.

Pl. xii., figs. 135, 136.

The type of this species was described as having two black spots on the middle of the prothorax. Subsequently Westwood gave a note and figures from the male in the Hope collection; one of his figures shows two almost circular spots on the prothorax towards the base.

I have seen but one specimen agreeing with the description, and that one has the spots of somewhat different shape (fig. 136) to that of the type. A specimen in the National Museum, Melbourne (fig. 135) has a large, angular, black blotch occupying most of the surface; but eleven others before me have the prothorax immaculate. On fresh specimens the prothorax is usually slightly paler at the sides than on the disc. But on old ones the whole of the upper-surface (except for a narrow black basal edging of the prothorax) has a tendency to become reddish-castaneous. The sides of the metasternum and of the abdomen are occasionally black, or stained with black. The size varies from 19 to 25 mm.

The female differs from the male in being wider, post-humeral incurvature less pronounced, pygidium more transverse, abdomen evenly convex instead of with a very wide depression, legs distinctly shorter and front tibiæ strongly tridentate.

DIAPHONIA (?) NEGLECTA, Thoms.

Although referred to *Eupacila* by Thomson, and standing under that name in Masters' Catalogue, it is quite evident that this species does not belong to that genus, as he says it is generally confounded with *cincta* and *breweri*.⁽³⁷⁾ The elytra also are apparently uniformly pale (at any rate, their colour is not specially mentioned, that of the upper-surface being "præcipue testacea"). To judge from the description it is an insect apparently resembling some varieties of *Ablacopus trapezifer*, *Diaphonia xanthopyga*, or *D. dorsalis*. To generically transfer a species without actually knowing it is seldom advisable, but the description of this species makes it quite certain that it is not a *Eupacila*, and that it probably is a *Diaphonia*, or one of the numerous so-called genera allied to same.

DIAPHONIA DEYROLLEI, Thoms.

Referred by Thomson to *Eupacila*, but by Kraatz to *Lyraphora*, and so placed in Masters' Catalogue. If the markings are constant it should be an easily recognizable

(37) A somewhat curious statement, as the pygidium is described as having "deux taches transversales obliques d'un jaune orange"; whereas the pygidium of those species is invariably entirely black.

species, as it is described as being entirely black, except for the elytra, which have four black stripes, and pygidium, which has a black median spot.

As Thomson stated that it was allied to *gulosa* and *dorsalis*, it appears better to refer it to *Diaphonia*.

DIAPHONIA NIGRICEPS, Blanch.

The original description of this species deals practically only with colour and size, and fits several species of distinct genera. Kraatz in transferring it to *Diaphonia*, from *Schizorrhina*, added nothing by which it could be identified. The only locality given was New Holland.

I have seen specimens of *parryi* and of *euclensis* marked as *nigriceps*, but it would be absurd to treat either of these species as synonyms of it without further particulars than those contained in the original description.

DIAPHONIA SATELLES, Blackb.

Pl. x., figs. 87, 88; pl. xi., figs. 89 to 94.

This species, which appears to be confined to South Australia, is subject to considerable variation, both sexually and individually. The male usually resembles a small male of *dorsalis*, but the species may be readily distinguished by the sutural stria. In *satelles* the stria, as such, terminates at the scutellum, although a line of punctures can be traced to the base. In *dorsalis* the stria is regularly continued to the base itself.

The female is more heavily built than the male, more convex, with the sides of the prothorax more rounded. She also usually has the prothorax entirely black, or with a more or less narrow sublateral edging of dingy-testaceous. The elytra are occasionally entirely black, but usually have a patch of dull colour on each side of the base; the patch is sometimes not much longer than wide (fig. 94), but sometimes extends to beyond the middle, on each side towards the apex there is sometimes a dingy-testaceous streak. Her pygidium may be entirely black, or with a transverse pale spot on each side, or mostly pale with a black mark from base to near middle (approaching that of the male). A recently-received specimen is entirely black except for some vague spots on the margins of the abdomen.

DIAPHONIA LATERALIS, Blackb.

Pl. x., fig. 86; pl. xiii., fig. 189.

The type of this species is still unique in the South Australian Museum. It is one of the most distinct of the genus.

DIAPHONIA EUCLENSIS, Blackb.

Pl. x., fig. 85; pl. xii., figs. 137, 138, 139; pl. xiii., fig. 140.

In structure this species is extremely close to *parryi*, but the hind tarsi of the male are distinctly shorter, so that if males of the same lengths are placed side by side the fifth joint of the hind tarsus of *euclensis* scarcely passes the base of the fifth joint of *parryi*. The hind tarsi of the females, however, are much alike. But I have seen no specimen of *parryi* in which the prothorax was not either entirely black, or with the pale markings disconnected; and of *euclensis* in which the discal marking was not completely isolated from the sides. On one specimen, however (a small male from Blackburn's collection, labelled, with a query, as *nigriceps*), there are some vague infuscations connecting in several places the discal blotch with the base (fig. 85). This specimen also has the scutellum partly dark and a vague cloud on each side of same. A female (fig. 138) in the National Museum, Melbourne, labelled with a query as from Queensland (almost certainly it is not from that State), has the outlines of the prothorax somewhat different to those of normal specimens, and with two comparatively small dark spots on the disc. Its scutellum is narrowly margined with black, and has a blackish line from the base to beyond the middle.

It is not always easy to distinguish females of it from females of *mniszechii*, but the male has the abdomen less protuberant at the sides, and the excavation on the lower-surface considerably smaller, although still large; the tarsi are also somewhat shorter.

DIAPHONIA DORSALIS, Don.

Pl. xi., figs. 95 to 99.

This species varies in length from 20 to 29 mm. The median black mark of the prothorax occupies from one-third the width to about three-fourths, in the latter case leaving only a narrow yellowish margin on each side; the yellow portion with, or without, a small dark spot slightly in advance of the middle. On the elytra the black sutural mark may be narrow and scarcely extended beyond the subsutural stria, or extended to about the middle; towards the apex, however, it is suddenly narrowed. The spot on each shoulder varies in size and from deep-black to faintly infusate. The pygidium varies from pale, except for very narrow black margins and a short medio-basal spot, to more than half black, with the medio-basal spot continued to the apex, so as to divide the pale portion into two transverse spots. The antennæ are much larger in the male than in the female.

A specimen (fig. 95), in the National Museum, has the prothorax narrowly but distinctly margined with black, so that there appears a narrow pale stripe a short distance from each side. Its elytra also have the dark markings more extended than usual, with the humeral spot continued as a stripe almost to the apex, and connected with the sutural patch near the apex and again near the scutellum, so that an elongate, pale, irregularly-defined spot is enclosed on each side.

The species is abundant in the coastal districts of New South Wales and of Southern Queensland, and has a rapid and noisy flight. Specimens are often seen and heard flying through the suburban streets of Sydney and Brisbane.

DIAPHONIA XANTHOPYGA, Germ.

Pl. xi., figs. 100 to 107.

For this species the genus *Melobastes* was proposed by Thomson, but it should never have been removed from *Diaphonia*, in which it was allowed to remain, even by Kraatz.

The species is subject to considerable variation in size⁽³⁸⁾ (17-27 mm.) and markings, more especially in the female. The type was evidently an ordinary male, but rather small and with the scutellum entirely black (only three males before me have the scutellum entirely black, in most specimens much of it being pale). On specimens in good condition the margins of the prothorax are usually paler (usually quite flavous) than the disc, but with age the prothorax (except for such dark markings as are present) tends to become uniformly reddish-castaneous. But the narrow black basal edging is always present, and the apex is also always narrowly black, at least in the middle. Frequently a small vague dark spot can be traced close to each margin, slightly in advance of the middle. A small fovea may sometimes be seen on each side of the pygidium; but it is usually not traceable. It may appear on either sex. On fresh specimens some long reddish hairs may be seen on the elytra, but they are usually completely abraded.

The female (apart from colour) differs from the male in being wider, elytra less narrowed, prothorax more convex and with more rounded sides,⁽³⁹⁾ head slightly smaller, club of antennæ much smaller, abdomen evenly convex along middle (instead of widely depressed), mesosternal process slightly less prominent, and legs distinctly shorter, with the tibial dentition more pronounced (many females, however, have the teeth

⁽³⁸⁾ The type was nine German lines, not five, as quoted by Kraatz.

⁽³⁹⁾ The sexual variations of the prothorax and elytra are much as in *satelles*.

of the front tibiae broken or worn down by digging). Her punctures also are usually denser and larger than in the male.

A very small male in the South Australian Museum has an obscure pale spot on each side of the clypeus, and the middle of the abdomen obscurely diluted with red. It is the only specimen under examination whose head is not entirely black. Its scutellum is entirely pale. It has an unusually distinct fovea on each side of the pygidium, and its elytral punctures are unusually large and conspicuously transverse.

Another male (fig. 105) has the black basal edging of the prothorax somewhat wider than usual, with a subtriangular extension from same to near the middle; it also has a fairly large isolated spot on each side of the basal third and some blackish spots near the margins, somewhat in front of the middle. Another male has somewhat similar but less pronounced markings.

Another male (fig. 106) has the black sutural marking somewhat dilated towards the base, and the scutellum with a subtriangular pale spot.

A female (fig. 104) has the black basal edging of the prothorax continued around the sides, and two blotches of very unequal size on the disc. Its scutellum has two irregular pale spots. On the elytra there is a large dark sutural blotch, of an irregularly oval outline, from near the base to the apical third, then continued narrowly to apex; there is also a vitta from near each shoulder to the subapical callosity.

A female (fig. 103), in Mr. Griffith's collection, has the elytral markings conjoined, but otherwise somewhat similar; its prothorax has two large and some small spots.

A female (fig. 100) from Western Australia, in the National Museum, Melbourne, has the elytra dark, except for some basal markings. Its prothorax has two large and some smaller spots.

A female (fig. 101) from Eucla, in the National Museum, Melbourne, has the elytra dark, except for some irregular basal markings. Its prothorax has an irregularly M-shaped mark, occupying most of its surface, and the small medio-lateral spots are unusually well defined. This specimen was labelled *Lyrphora deyrollei*, but is apparently not even close to that species.

Another female (fig. 102), also from Western Australia, has the prothoracic markings still more extended, but on the elytra the markings are somewhat as on the first described female.

DIAPHONIA GULOSA, Janson.

The mesosternal process of this species is certainly small, but that appears to be its only aberrant feature, and it should

not have been removed from *Diaphonia*; to propose the special genus *Chondropyga* for its reception, as was done by Kraatz, appears absurd.

On specimens in perfect condition the sides of the prothorax are usually rather densely pubescent, but the clothing is easily abraded, as many specimens have the prothorax quite glabrous. On an occasional specimen there are two reddish medio-basal spots on the prothorax. The scutellum varies from entirely black to almost entirely pale. The abdomen is usually entirely black, but one specimen has it diluted with red in spots. The black median marking of the pygidium is sometimes continuous from base to apex, but frequently stops short at the middle.

DIAPHONIA OLLIFFIANA, Janson.

Pl. xi., fig. 108; pl. xiii., figs. 187, 193.

The typical form of this species is evidently the one figured by Froggatt.⁽⁴⁰⁾ At the present time there are no specimens of such a form before me, but from the National Museum, Melbourne, there is a variety in which all the elytral markings are more or less conjoined (fig. 108).

DIAPHONIA PARRYI, Janson.

seminigra, Kraatz.

Pl. xii., figs. 120 to 123.

The type of this species was figured as having a large dark blotch behind the scutellum, and a small spot on each shoulder. But the species was described as having variable markings.

A specimen, in the South Australian Museum, agrees well with the original figure. Another has a slight cloud behind the scutellum, a very vague spot on each shoulder, and some pale markings on prothorax. Another specimen (fig. 121), a female, has the paler portions of the elytra of a dingy-brown, and covering about half the surface, the black extends from each shoulder to the suture at the apex, forming a large triangle; the preapical callosities are also black. A male (fig. 122) has the elytra entirely black, except for a rather small curved space on each side of the apex. Several males have the elytra entirely pale, or with the suture only excepted.

On the males the mesosternal process is coarsely punctured, slightly concave and sometimes with long hair as on the other parts of the under-surface. On the females the process is usually quite flat; shining, and with very sparse punctures.

(40) Australian Insects, pl. xvii., fig. 10.

The late Rev. T. Blackburn recorded *seminigra* as a synonym of *parryi*, and I agree with that opinion.

DIAPHONIA LUTEOLA, Janson.

Of this species Janson says: "Most nearly allied to *D. xanthopyga*, but very different in colour and sculpture." But many specimens of *xanthopyga* agree exactly with his description of the colours (head, apex and base of thorax, apex of scutellum, suture of elytra, body beneath, and legs black, centre of abdomen pitchy, thorax, elytra, and pygidium testaceous). The size also ($10\frac{1}{2}$ lines) fits many specimens of *xanthopyga*, which occur in Western as well as South Australia.

But the described sculpture, "punctures forming three striæ on each elytron, the first sutural, the others on the disc," is certainly at variance with *xanthopyga*, which has rather numerous irregular punctures, sometimes appearing in feeble striæ, but certainly in many more than three on each elytron.

DIAPHONIA VICINA, Janson.

This species was described as being "nearly allied" to *luteola*, the latter being "most nearly allied to *xanthopyga*." The description and figure, in fact, represent an insect rather close to *xanthopyga*, but differing in having smaller punctures and part of the head pale. Reference to the figure (plate vii., fig. 2) was not given at the time the species was described, and it was also omitted from Masters' Catalogue.

Kraatz apparently had not seen the figure, or at least he does not mention it. Nevertheless, he made the species the type of his genus *Dysdiatheta*, the diagnosis of which is simply a Latin translation of parts of the original description; with a note that, "The typical species, on account of its yellow colouring, is somewhat like *Diaphonia*, but it cannot remain in same on account of the prothorax, which is like that of *Hemipharis* at the base."

I have not, to my knowledge, seen the species, but refer it back to *Diaphonia*, as Janson's idea as to the position of a species, which he described and figured, seems preferable to that of Kraatz, who apparently knew it by the description only, not a single particular being added to those given by Janson.

DIAPHONIA MNISZECHII, Janson.

Pl. xiii., figs. 141 to 147, 168, 169.

The male of this fine species (which occurs from the Mallee district of Victoria to the coast of Western Australia as far north as Geraldton) may be readily distinguished from all

other Australian *Cetonides* by the dense clothing of the pygidium and under-surface, and by the deep impression occupying the greater portion of the abdomen.

The type was described and figured as having two blackish-piceous spots on the prothorax. I have only seen three specimens with two isolated spots, and those were more rounded than as figured for the type. Nine others have each a very large and more or less trapeziform blotch, but never of exactly the same shape, and eight others have the prothorax immaculate. On living specimens the elytra are of a pale straw-colour, but after immersion in alcohol, or with age, they become more or less castaneous. A specimen, in the National Museum, Melbourne, has the whole of the upper-surface opaque; but it has the appearance of a specimen that was picked up dead after having been bleaching in the sun. The long clothing is also considerably altered in appearance by immersion in alcohol. The scutellum is sometimes entirely pale, but usually has the basal portion black, and sometimes there is a dark median line from the basal marking almost to the apex. On specimens in perfect condition there are some fine, short setæ on the elytra, and still fewer on the prothorax, but these are frequently absent from old or abraded specimens. The length varies from 24 to 36 mm.

The female differs from the male in being somewhat smaller, with the punctures, especially on the elytra, coarser. The elytra cover more of the abdomen and the incurvature of the sides behind the shoulders is less pronounced. The pygidium is much smaller. The clothing of the under-surface and pygidium is shorter and less dense. The abdomen is evenly convex. The legs are distinctly shorter, the front tibiæ are strongly tridentate externally, and the other tibiæ are more conspicuously armed.

The species was referred originally to *Diaphonia*, but was made the type of *Hemichnoodes* by Kraatz. Blackburn considered that it should have been left in *Diaphonia*, in which I concur. The clypeus is certainly rather deeply notched, but this character is not supported by others.

DIAPHONIA WITTEI, Schoch.

The description of the sculpture of this species reads very well as if founded on a rather small male of *mniszechii*, and the colour, except the prothoracic markings, would fit several specimens before me. The prothorax, however, is described as having on the disc two black spots, and in front of same a black H-shaped mark. But as the prothoracic markings of *mniszechii* are very variable, it seems probable that *wittei* will prove to be simply a variety. More especially as the

pygidium and under-surface are described as being covered with long greyish-yellow hairs.

DIAPHONIA SUTURATA, Nonfr.

In many respects the description of this species reads as if it was founded upon a fairly common form of *Ablacopus trapezifer*; but as the prothorax is described as "dense et fortiter punctato," presumably it is not that species. It is to be noted, however, that the punctures of *trapezifer* vary considerably in size and density, although the expression quoted could not (in the dozens of specimens that I have examined) be correctly applied to them.

DIAPHONIA CAROLI, new name.

frenchi, Lea; n. pr.

The name *frenchi* having been previously used in the genus by Schoch, I have to propose *caroli* as a substitute for the species that I also named *frenchi*.

A male from Cooktown, in Mr. French's collection, has the pygidium red, except for a medio-basal black triangle, and an infusate spot towards each side. It has also a small reddish spot on the side of each shoulder.

DIAPHONIA PALMATA, Schaum.

Pl. xii., figs. 109, 110.

This species was originally referred to *Schizorrhina*, and why it should have been transferred to *Lyraphora* is a mystery. Its clypeus and mesosternal process are much as in *Diaphonia dorsalis*, and it is certainly congeneric with that species. The large basal marking on the elytra is somewhat variable in its outlines, and the disconnected spots on each elytron vary in number from one to three.

It has been recorded as occurring in Adelaide, but probably in error; specimens that I have seen are from New South Wales and Queensland.

DIAPHONIA MELANOPYGA, n. sp.

♂. Black; prothorax (extreme base and apex and a small spot on each side excepted), scutellum (sides excepted), and elytra (suture excepted) of a rather light-castaneous. Under-surface moderately clothed with ferruginous hairs, becoming darker on legs.

Head with dense and rather coarse punctures. Clypeus moderately notched in front, tips and sides rounded; punctures coarser than on head. Club as long as clypeus is wide. *Prothorax* rather convex, sides feebly decreasing in width from

base to middle, and then more strongly to apex; medio-basal sinus shallow, about two-thirds the width of each of the lateral ones; with small, scattered punctures, becoming rather coarse on sides. *Scutellum* with scattered punctures. *Elytra* not much wider than prothorax, posthumeral incurvature moderate, suture bimucronate at apex; subsutural stria continuous from apex to beyond the tip of scutellum; with fairly numerous punctures of moderate size, or small, becoming transversely confluent in places. *Pygidium* densely, concentrically strigose. Abdomen with a wide and rather shallow median depression. Mesosternal process rather short, dilated from base to apex, the apex almost twice as wide as the length to suture. Front *tibiae* rather obtusely tridentate; middle pair with a moderate transverse ridge and a smaller one near base; hind pair with two similar but more conspicuous ridges. Length, 21-22 mm.

Hab.—South Australia (National Museum, Melbourne, from C. French), Ouldea (R. T. Maurice). Type, 1. 1507, in South Australian Museum.

In general appearance rather close to *xanthopyga*, but pygidium entirely black, punctures much smaller, prothorax of male with outlines as in female of that species, club intermediate in size between that of its male and female, and suture bimucronate at apex.

TAPINOSCHEMA DIGGLESII, Janson.

This species varies in length from 23 to 33 mm. The type was evidently in poor condition, as the prothorax was described as almost opaque, whereas it is normally quite as polished as the elytra. It was also described as having the "sides of the metathorax broadly reddish-brown." But seven specimens before me have the metasternum entirely dark, only one having the episterna somewhat diluted with red. The elytra vary from a bright purplish-blue to an almost brassy-black. The male is widely but shallowly depressed along the middle of the abdomen.

TAPINOSCHEMA IMPAR, MacL.

This species varies in size from 22 to 28 mm. The sutural vitta also varies considerably in width, on some specimens being very narrow and parallel with the suture, on others wider but narrowing from near the base to the apex.

The prothoracic margins are sometimes narrowly black throughout, sometimes only the base is black. Near each side, slightly in front of the middle, there is sometimes a small infusate spot, or cluster of minute spots.

The male differs from the female in having the club of the antennæ much larger, abdomen much less strongly convex along middle (but without a conspicuous median impression) and tibial dentition not quite the same.

TAPINOSCHEMA LACUNOSA, Janson.

Pl. xiii., figs. 170, 171.

The type of this species was described as a female, 10 lines in length and as from Western Australia. Each of its four front tibiæ were described as being armed with two external teeth, but in the figure (plate vii., fig. 3) three are shown.

A female from Tarcoola (South Australia), in Mr. French's collection, apparently belongs to the species. It is entirely black, except for a slight-bluish gloss on the elytra, and 10 lines in length. Its middle tibiæ are armed at the tip with two strong blunt teeth (one of which should be regarded as external) and two long inner spurs; towards the external base there are two teeth close together. The front tibiæ are armed with three strong teeth, of which the front one is more acute than the others, and slightly more distant from the second than the latter is from the third.

METALLESTHES METALLESCENS, White.

var. *unicolor*, Macl.

This species is fairly common in many parts of South and of Western Australia. In length it varies from 17 to 21 mm. The typical form is black, with a distinct coppery gloss, but on many specimens the gloss is almost or quite absent, and an occasional specimen has a bluish gloss.

Fresh specimens in good condition have the whole of the upper-surface fairly densely clothed with rather long hair, varying from ashen to sooty. But it appears to be easily abraded, especially from the head and prothorax, so that these sometimes are quite glabrous, or at least with very short setæ confined to the punctures, and not rising to the general level. Sometimes the disc of the prothorax is glabrous and the sides fairly densely clothed.

The male has a wide but rather shallow abdominal impression. Its front tibiæ are strongly tridentate; the middle tibiæ are acutely dentate at apex and obtusely near the base, the hind ones are feebly dentate near the base and middle, the teeth being invisible from certain directions. From some directions the hind tibiæ are seen to be quite regularly serrated on the outer side, the serrations being due to numerous oblique impressions.

In the female the front tibiæ are still more strongly tridentate,⁽⁴¹⁾ the middle tibiæ are tridentate at apex, have a strong tooth about the middle and a feeble one behind same. They have also numerous oblique impressions but these are somewhat different to those of the male, so that when viewed from the sides the serrations are much less pronounced, or appear as feeble undulations.

I cannot regard *Schizorrhina unicolor*, Macl., as more than a slight variety of the species. Its type was evidently an old female. Two females from King George Sound (from the Macleay Museum) agree quite well with the description and agree in all essential features with typical South Australian females.

METALLESTHES SUBPILOSA, Nonfr.

The description of this species reads as if founded upon an insect similar to *nigrans* and *hirticeps*, and so possibly it should be transferred to *Pseudoclithria*.

PSEUDOCLITHRIA MASTERSI, Macl.

Mr. French has sent a Gayndah female of this species for examination. Its elytra are almost entirely reddish (slightly infuscated towards the suture), the antennæ are also reddish, and the femora are diluted with red. The front tibiæ have a strong apical tooth and a median one almost as strong; the middle and hind tibiæ are each transversely dentate at about the middle and one of the free spurs of the hind pair is grooved throughout and inflated at the tip, somewhat as in *fossor*, although to a less extent. The conspicuous tubercle on the forehead should prevent it from being confounded with any other species.

PSEUDOCLITHRIA HIRTICEPS, Macl.

var. *nigrans*, Macl.

Pl. xiii., fig. 172.

The typical form of this species was described and figured by Kraatz as *Clithria bicostata*; but he considered it possibly the female of *eucnemis*; which most certainly it is not.

In making the species the type of *Pseudoclithria*, v.d., Poll described the front tibiæ as unidentate in both sexes, evidently not counting the apical tooth as a tooth (in this, however, he has but followed many precedents), much as some others count the elytral interstices as starting with the second, instead of with the sutural one.

(41) The apical tooth in fresh specimens is much larger than the others, but on many specimens it is broken off, or worn down, so that it appears to be smaller than the one behind it.

PSEUDOCLOTHRIA RUGOSA, Schaum.

Referred to *Diaphonia* (as a subgenus of *Schizorrhina*) by Schaum, by Kraatz to *Metallesthes*. It is a short, compact species that appears best placed with *hirticeps*, and so I refer it to *Pseudoclothria*. The only specimens before me are two males belonging to the National Museum, Melbourne, and Mr. C. French.

PSEUDOCLOTHRIA MAURA, Janson.

As noted by Janson this species is very closely related to *rugosa*, and I therefore refer it to *Pseudoclothria*. The only specimens before me are two males from Western Australia belonging to Mr. French and Mr. Griffith (the latter from Perth).

PSEUDOCLOTHRIA ADUSTA, Janson.

This species is also transferred to *Pseudoclothria*, as Janson's description renders it quite evident that it is, as stated by him, closely allied to *rugosa*.

PSEUDOCLOTHRIA RUFICORNIS, Westw.

Pl. xiii., figs. 173, 174, 175.

Somewhat doubtfully I refer this species to *Pseudoclothria* as its clypeus is not at all notched in front, and its front tibiae are usually tridentate in both sexes. By Westwood it was referred to *Diaphonia*, and by Kraatz to *Metallesthes*.

The upper-surface usually has a brassy-green gloss, but occasionally the gloss is bluish. The elytra are usually as dark or almost as dark as the prothorax, but occasionally they are entirely of an almost brick-red colour, except for a slight greenish gloss. One female in the South Australian Museum has the elytra entirely red, and the base of the prothorax partly diluted with red. On this female the submedian teeth of the front tibiae (fig. 175) are almost equal in size. The front tibiae are usually tridentate in both sexes, the sub-basal tooth being much smaller than the others (fig. 173). One male in the South Australian Museum, however, has the front tibiae bidentate only (fig. 174).

The male differs from the female in being smaller and narrower, abdomen considerably smaller, slightly flattened along the middle, with its outline as seen from the side feebly concave instead of convex, and with the club considerably larger.

A male from Koorngabie, in Mr. Griffith's collection, appears to represent an extreme variety. Its prothorax and elytra are brick-red, with a slight bluish gloss, but the prothorax has a fairly wide median dark vitta, interrupted just before the base, and a small spot on each side slightly in advance of the middle; the antennae (scape excepted), palpi,

abdomen (tip excepted), and pygidium are also of a more or less brick-red.

PSEUDOC LITHRIA DEJECTA, n. sp.

Black, antennæ and parts of legs diluted with red, elytra more or less reddish towards sides, pygidium flavous, except at base and apex. Densely clothed with greyish hairs, sparser on elytra, abdomen, and pygidium than elsewhere.

Head with dense, normally-concealed punctures. Clypeus feebly bilobed, sides and apex rather strongly upturned; with dense punctures. Club somewhat shorter than the width across clypeus. *Prothorax* about twice as wide at base as at apex, sides but feebly undulated; median sinus not very deep, about one-third the width of base, the others still shallower; with rather dense punctures, in parts with a tendency to become transversely confluent. *Scutellum* with fairly dense punctures. *Elytra* short, posthumeral incurvature slight; with irregular punctures, in places transversely confluent, or becoming strigæ; interstices convex, suture and third more noticeably so than others, second widest of all, the three or four outer ones more or less irregular, and much interrupted by punctures. *Pygidium* concentrically strigose, a fovea on each side. *Mesosternal process* obtuse, not produced. Front *tibiæ* strongly bidentate, and with a long spur: middle pair with two strong apical teeth, and a strong subbasal one, and with two long unequal spurs; hind pair with two apical teeth, the inner triangular, the outer truncate at apex, towards base with a dentiform ridge, apex with two long unequal teeth, the longer one curved at apex. Length, 11½-13 mm.

Hab.—Western Australia: Perth (C. French, K. 10394, of Australian Museum, Sydney), Claremont (National Museum, Melbourne). Type, I. 1937, in South Australian Museum.

A small species allied to *rugosa* and *maura*: from the former distinguished by the uniformly black prothorax and differently-coloured legs. From the latter, to which it is close, by its less-rugose elytra, hairy head and prothorax, clypeus more distinctly upturned in front, and by its pale pygidium. The elytra are apparently coloured as in *adusta*, but that species is described as having a very different prothorax. The five specimens before me differ to a slight extent in size, but are very similar in colouration, except that the elytra are more conspicuously diluted with red on some than on others; one of the National Museum (Melbourne) specimens at first glance appears to have them black. They appear to be all females. On specimens in perfect condition the prothorax is quite densely clothed, but the hairs appear to be easily abraded, so that the disc is sometimes glabrous. On several

there is a vague depression on each side of the disc of the prothorax. On one the foveæ on the pygidium are not traceable.

PSEUDOCLOTHRIA ANCHORALIS, n. sp.

♂. Base of head (the rest flavous), middle of apex of prothorax, and a median line (not quite extending to apex), scutellum, suture, apex and apical sides of elytra, sterna (the sides flavous), abdomen (the sides flavous), and legs (most of hind femora flavous), black or blackish; pygidium flavous; prothorax with the sides flavous, becoming red between same and a black median line; elytra red between suture and sides; antennæ and palpi of a dingy-red. Under-surface and legs with long, straggling, brownish hairs.

Head with irregularly-distributed punctures of moderate size. Clypeus obtusely bilobed in front, sides rounded, margins not at all upturned. Club large, about the length of head between eyes. *Prothorax* rather convex, latero-apical incurvature slight, basal sinus shallow, about one-fourth the width of base; with fairly large, unevenly-distributed punctures. *Scutellum* with rather sparse punctures, in two uneven longitudinal series. *Elytra* short, posthumeral incurvature moderate; sides and apex with very irregular punctures and strigæ intermixed, sutural interstice fairly wide at base, narrowed and elevated posteriorly, each elytron with two conspicuously-elevated ridges, the first wider than the other, and separated from it by two very irregular rows of punctures, but joined with it posteriorly, between first and suture two irregular rows of large punctures. *Pygidium* feebly concentrically strigose, with a distinct fovea on each side. *Meso-sternal process* obtuse, scarcely produced in front of coxæ. Abdomen shining, gently flattened along middle. Front *tibiæ* strongly bidentate, with a stout apical spur; middle pair bidentate and bispinose at apex, about middle with a very large tooth; hind pair bidentate at apex, the outer tooth truncate, about middle with an oblique dentiform ridge, and some smaller ones towards base, apex with two large unequal spurs. Length, $11\frac{1}{2}$ mm.

Hab.—South Australia: Tarcoola. Type in C. French's collection.

Allied to *ruficornis*, but very differently coloured, clypeus without upturned margins, and front tibiæ acutely bidentate. The black markings on the upper-surface are shaped much like an anchor. The sides of the elytra are blackish about the apex, but towards the base become dark-red, the space between same and suture is of the same shade of red as most of the prothorax. There is an irregular infuscate spot on each side of prothorax, somewhat in advance of the middle.

PSEUDOCLOTHRIA KERSHAWI, n. sp.

Pl. xiii., fig. 176.

♂. Black; prothorax (middle of apex and of base excepted) and elytra (suture and apex excepted) reddish-flavous, pygidium somewhat paler, antennæ and some marginal spots of abdomen obscurely diluted with red. Legs and under-surface with blackish hairs.

Head, except at base, with deep and not very small, clearly-defined punctures. Clypeus with margins considerably elevated obliquely, front obtusely bilobed, sides rounded; punctures more irregular than on front of head. Club large, almost the width of head across eyes. *Prothorax* rather lightly transverse, sides feebly incurved towards base and apex, median sinus small, the lateral ones wide, oblique, and very feebly incurved; with rather large and dense punctures, becoming smaller and sparser about middle and base. *Scutellum* with irregularly-distributed punctures. *Elytra* moderately long, posthumeral incurvature moderate, with a fairly wide and moderately-elevated ridge about one-third from suture, but disappearing posteriorly; with dense, coarse, and irregular punctures, becoming smaller about apex, and transversely confluent towards sides. *Pygidium* moderately concentrically strigose. *Mesosternal process* short and obtuse. Abdomen shallowly depressed along middle. Front *tibiæ* strongly bidentate, with a feeble tooth near base, apical spur rather stout and short; middle pair bidentate and unequally bispinose at apex, rather strongly dentate slightly behind the middle; hind pair unequally tridentate at apex, about middle with a transverse ridge and a smaller one near base, apex with two long unequal spurs, the smaller one acute, the other parallel-sided, with the apex truncate. Length, 15 mm.

Hab.—South Australia. Type in National Museum, Melbourne, from C. French.

Allied to *ruficornis*, but clypeus bilobed. The colour is also very different to the normal form of that species.

PSEUDOCLOTHRIA ERYTHROPTERA, n. sp.

Pl. xiii., figs. 177, 178.

♂. Black; elytra of a brick-red, suture and sides narrowly of a darker-red, pygidium and marginal spots of abdomen flavous. Legs and under-surface in parts densely clothed with long pale hairs.

Head with dense and rather small punctures, but base impunctate. Clypeus with thick, moderately-upturned margins, feebly bilobed in front, the sides parallel, punctures somewhat as on head; suture with same traceable only on

sides. Club not very large, about the width of clypeus. *Prothorax* moderately transverse, latero-apical incurvature slight, latero-basal very feeble; median sinus moderately deep, about one-fifth the width of base, the lateral ones shallower and somewhat oblique; punctures dense, but not very large, in places transversely confluent. *Scutellum* with larger but sparser punctures than on prothorax. *Elytra* short, posthumeral incurvature moderate, with a distinct but rather narrow and feebly-elevated ridge one-third from suture, and disappearing posteriorly; with dense, coarse, and irregular punctures, becoming transversely confluent towards sides. *Pygidium* concentrically strigose, with a fovea on each side. *Mesosternal process* short and obtuse. Abdomen somewhat flattened along middle. Front *tibiæ* obtusely bidentate, with a short stout spur; middle pair bidentate and unequally bispinose at apex, towards base with a strong semidouble tooth; hind pair with a triangular tooth and a truncated one, and with two long acute unequal spurs at apex, with an oblique dentiform ridge at middle, and a less-distinct one towards base. Length, 17 mm.

Hab.—North-western Australia: Shark Bay. Type in National Museum, Melbourne, from C. French.

Allied to the preceding species, but more robust, prothorax entirely black, front *tibiæ* differently armed, spurs of hind *tibiæ* simple, and club much smaller, etc.

PSEUDOCLOTHREA FOSSOR, n. sp.

Pl. xiii., figs. 179, 180, 181.

♀. Black with a slight bronzy or bronzy-green gloss, inner half of two apical-joints of club bright-red. Under-surface and legs with rather short brownish or greyish hairs, becoming still shorter on pygidium.

Head rather strongly convex in middle, with deep punctures of irregular size and distribution. Clypeus with rather strongly turned-up margins, apex widely rounded, sides decreasing in width to base; punctures larger but shallower than on head, suture traceable only at sides. Club much shorter than width of clypeus. *Prothorax* feebly transverse, sides strongly rounded towards apex, apex distinctly incurved to middle; median sinus shallow, about one-fifth the width of base, the lateral one somewhat oblique and very feebly incurved; with dense punctures of moderate size, becoming coarser and transversely confluent on sides, and almost absent from a narrow median line. *Scutellum* with two irregular series of punctures. *Elytra* moderately long; posthumeral incurvature feeble; with very dense, coarse, and irregular punctures, but leaving five almost impunctate ridges on each

elytron. *Pygidium* densely, subconcentrically strigose. *Meso-sternal process* short and obtuse. Abdomen strongly convex in middle. Front *tibiæ* strongly tridentate and with a strong apical spur; middle *tibiæ* strongly bidentate and strongly bipinose at apex, with a strong median tooth and a smaller basal one; hind pair tridentate and with two very unequal spurs at apex, near middle acutely dentate, and with (or without) a smaller tooth towards base. Length, 18-18½ mm.

Hab.—Western Australia: Mullewa (Miss J. F. May).

At first glance something like large, strongly-sculptured specimens of *ruficornis*, but the spurs of the hind *tibiæ* readily distinguish from that and from all other species of Australian *Cetonides*; the smaller one is stout, obtuse, almost parallel-sided and slightly longer than the basal-joint of tarsi; the other is slightly longer than the two basal-joints, scarcely wider than the other at the base, but dilated to apex, which is widely rounded. It is convex outwardly and concave, with a finely-granulated appearance, inwardly. They are evidently used as spades, as there was a considerable amount of earth on them when captured. From most directions the clypeus appears to be entire in front, but from others it is seen to be very feebly bilobed. The tridentate front *tibiæ* are aberrant for the genus, but the species is quite evidently allied to *ruficornis*. There are a few short hairs towards apex of elytra, but they could be easily overlooked. The sharply-contrasted colours of the club are alike on the types. The ridges on each elytron are as follows:—A sutural one (narrowly but distinctly separated from its fellow), the next (and most distinct one) commences near base, and is obscurely joined with the others to form a preapical callus, then there is a less-distinct one, followed by a short feeble one, and finally a moderately-distinct one. On the types the strigæ of the pygidium do not circle round a small central space as on most species, but the very tip of the pygidium appears to be the hub, so that the broken rings appear to be cut off, as it were, by the hind margin.

A badly-broken male (I obtained it with some fragments of other rare beetles from a spider's nest at Mullewa), probably belongs to this species, but differs in being much smaller (14½ mm.) with a conspicuous bluish gloss on the head, prothorax, and scutellum, and a purplish gloss on the under-surface and legs. Its antennæ are missing, and most of the legs are damaged. The front *tibiæ* are tridentate, with the basal tooth very small, the middle pair are much as in the female, and the hind pair have one tooth about the middle, as on one of the females, but there are some small denticulations towards the base; at the apex only one spur is left

on each, and that is long and acute, very different to either of those on the female. The abdomen is gently depressed along the middle, and the pygidium is normally strigose.

LENOSOMA FULGENS, MacI.

var. *viridicupreum*, MacI.

The type of *fulgens* was described as viridi-cupreous, with under-surface greener than upper, and the tibiæ and tarsi piceous. No mention was made of the prothoracic impressions. In describing *viridicupreum* Macleay stated that its sculpture "is the same as in *fulgens*, but it differs from it in being of a broader form and very different colour." But I cannot regard it as more than a variety of *fulgens*. The female is certainly considerably wider than the male, and usually longer, and the colour is not alike on any of the five specimens before me. The colours of the under-surface and legs vary to a certain extent, but less notably so than on the upper-surface.

On one male the upper-surface is uniformly brassy, except that the suture and sides in some lights have a slight greenish gloss.

Another male has the upper-surface not quite so bright, and the elytra conspicuously darker than the prothorax, appearing in fact almost black, with a brassy gloss, more pronounced towards the apex than elsewhere.

On one female the entire upper-surface is of a brassy-green, but the head and prothorax in some lights are more brassy than green.

A female, in the National Museum, Melbourne, is purplish-blue, in places purplish-green. Seen from behind every part of its upper-surface appears to be of a deep-purple, but from directly above the head and prothorax appear to be deep metallic-green, changing with the point of view through blue to purple.

Another female, in the same Museum, is of a brilliant golden-red, uniform on the head and prothorax (except that the sides of the latter in some lights have a slight brassy-green gloss), but the elytra in places have a brassy-green gloss, in places changing to purplish-bronze, or purple, or blue. This specimen is unfortunately almost legless, but it is one of the finest *Cetonias* I have ever seen.

Mr. R. E. Turner informs me that he has seen the species in abundance in certain seasons on a common shrub with clusters of small white flowers at the edge of the scrub at Mackay. The various colour varieties are seen freely mating; the green form is the prevalent one, but the bronze one is fairly plentiful, and the dark-blue form is the rarest.

LENOSOMA FASCICULATUM, Macl.

Mr. Tillyard has taken numerous specimens of this fine species at Dorrigo. The male differs from the female in being somewhat narrower, club of antennæ considerably larger, abdomen depressed along middle, and front tibiæ less-acutely dentate. Both sexes have the fifth abdominal segment more conspicuously clothed than the others. The colour of the prothoracic clothing varies from testaceous to black.

GLYCYPHANA BRUNNIPES, Kirby.

Pl. xii., figs. 111, 112, 113.

New South Wales specimens of this species are usually of a decided green colour, with the white spots on the elytra of small size and isolated. Queensland specimens usually have the green much dingier (more of an olive-green or even brown); the elytral spots enlarged in size and irregularly conjoined to form an irregular postmedian fascia. On the prothorax the discal spots are two or four in number, but sometimes altogether absent. On one (from Cairns) the white line at each side of the prothorax is reduced to a small apical spot; on another specimen to a small apical and a small median spot. The markings on the head, pygidium, and under-surface are also variable.

GLYCYPHANA PULCHRA, Macl.

subdepressa, Blackb.

Pl. xii., figs. 114, 124, 125.

There are four co-types of *pulchra* before me, and another specimen from Cairns; and the markings are not exactly alike on any two of these. On each elytron the median fascia is broken up into two or more spots. The apical fascia ⁽⁴²⁾ is sometimes represented by a few feeble spots only. Towards the base there are sometimes a few feeble spots. The spots on the under-surface also vary considerably.

I examined the type of *subdepressa*, prior to its being sent to the British Museum, and noted it as being a quite normal specimen of *pulchra*.

GLYCYPHANA OCHREONOTATA, n. sp.

Pl. vi., fig. 8.

♂. Deep velvety-black. Sides of prothorax, upper interior sides of scapulæ, an oblique vitta from each shoulder to near the middle, sides near the posthumeral incurvature, an interrupted postmedian fascia on elytra, and a large transverse spot on each side of pygidium ochreous; a spot on each hind coxa, and a narrow strip at the side of each abdominal segment ochreous-white.

(42) Not mentioned in the original description.

Head convex; with fairly large punctures. Clypeus shining; with dense punctures, becoming smaller in front; apex obtusely notched, the tips lightly elevated. Club slightly longer than eye. *Prothorax* moderately transverse, sides strongly rounded, diminishing in width to apex, middle of base obtusely incurved; with fairly large, shallow punctures. *Scutellum* elongate, with a few punctures. *Elytra* across shoulders distinctly wider than prothorax, sides at base somewhat excavated for reception of scapulæ, posthumeral incurvature rather strong, sides thence feebly diminishing in width to apex, which is widely and evenly rounded; narrowly and irregularly striated, and with irregular rows of punctures on sutural half of each elytron, sides with irregular punctures, but posteriorly and about apex rather coarsely strigose; third and fifth interstices obtusely elevated beyond the middle. *Pygidium* transversely strigose. *Abdomen* strongly convex along middle. Front *tibiæ* tridentate, the two apical teeth acute and rather large, the other smaller and more obtuse, the other *tibiæ* bispinose and tridentate at apex, and acutely dentate in middle. Length (σ , ♀), 14-14½ mm.

♀ . Differs in having the pygidium much more transverse, and the abdomen wider and less convex.

Hab.—Queensland: Coen River (W. D. Dodd). Type, I. 2250, in South Australian Museum.

The outlines are much as in *pulchra*, but readily distinguished from that species by the oblique humeral markings, which are pale portions of the derm itself, although in parts covered with an indumentum; but the other markings appear to be composed entirely of indumentum; at least where I have partially abraded them the derm beneath is black. Most of the punctures on the prothorax and elytra, although fairly large, appear to be partially obscured by a velvety indumentum, each usually has a small central pit, but this is frequently concealed.

PROTÆTIA MANDARINEA, Weber.

Recorded by Blackburn as from Queensland, where it appears to be a fairly common species about Cairns, Townsville, Brisbane, etc. Hockings stated that it "sometimes attacks the hive bees here (Brisbane) in great numbers." In Gemminger and Harold (p. 1327) it is referred to *Cetonia*, and several synonyms and varieties are given.

PROTÆTIA ADVENA, Janson.

In Masters' Catalogue referred to *Cetonia*, without authority for the transfer being noted. As Janson stated that it was somewhat similar to *mandarinea* it appears better

to leave it in *Protætia*. Although *mandarinea* is variable in its markings, I have seen no specimens of it that at all approach the description of the markings of *advena*.

MICROVALGUS.

In some respects this genus is a difficult one, and so far as the females are concerned it seems to be *impossible*, with several species, to denote characters by which they can be correctly paired with their corresponding males. Even with specimens before me which *must* be sexes, I have been compelled to leave 62 females unmated. The males on the other hand can usually be readily distinguished by peculiarities of a large fovea, which is always present on the abdomen; and a few species have distinctive characters on the pygidium. Curiously enough, these characters are not mentioned in any of the former descriptions. Specimens occur in abundance on flowers in the Sydney district and elsewhere in Australia, several specimens often mingling together on the flowers of one shrub or tree, especially of *Bursaria spinosa*, so that specimens taken on the same plant, or even on the same blossom, are not necessarily conspecific.

The typical forms of several species are quite distinctively coloured and clothed, so that it is quite easy to identify them, but most species appear to have colour varieties strongly resembling the normal forms of other species, from which, however, their males may be at once distinguished by the abdomen or pygidium.

So far as the previously-named species are concerned there are fortunately before me co-types of Macleay's two species; and a female bearing the late Rev. T. Blackburn's name label, *scutellaris*.⁽⁴³⁾ Before the types of his species (each of which was a female) were sent to the British Museum I also examined them.

The species in general appearance and sculpture have so much in common that it appears desirable to give details in which they all agree, and then to give under the species the distinctive features of each. The following particulars, therefore, may be regarded as common to all, with the exception of *quinquedentatus*, which is described at greater length.

♂. *Head* moderately long, flattened, with dense punctures. *Clypeus* feebly notched at apex. *Club* rather large. *Prothorax* with front angles produced and embracing head, base widely rounded; with dense, partially-concealed punctures. *Scutellum* triangular. *Elytra* not much but distinctly

(43) It is not marked as a co-type, but evidently is such, and agrees fairly well with the description.

wider than prothorax, shoulders rounded, each widely rounded at apex; striate-punctate, punctures partially concealed, interstices mostly flat or but feebly rounded, with small and usually concealed punctures. *Propygidium* large, with dense, more or less concealed punctures, each hind angle with a small but distinct tubercle. *Pygidium* large, about as long as wide, or lightly transverse, punctures as on propygidium. *Mesosternal process* wide, truncate in front, rounded behind. *Metasternum* concave posteriorly. *Abdomen* elevated posteriorly, with a large median excavation or fovea. *Legs* long; front tibiae with three distinct teeth, hind pair stout, suddenly narrowed to base, apex with two unequal spurs; front tarsi not very long, middle moderately long, hind very long, with basal-joint distinctly longer than second.

♀. Differs in having the prothorax somewhat shorter, with the sides more distinctly rounded, propy- and pygidium larger and projecting to a greater length beyond the elytra, metasternum gently flattened in the middle, abdomen strongly convex throughout, and legs shorter.

The punctures are larger on some species than on others, but they are usually so obscured by scales that they cannot be usefully employed. Where the surface has been abraded they are seen to be rather wide, more or less circular, and shallow; on the elytra they usually appear like partially-connected rings. Although the clypeus is always feebly notched at the apex, from most directions it appears to be gently rounded there. The sizes of the lateral tubercles on the propygidium vary, and on some specimens they are longer and less distinct than on others, but their differences are only of degree, and their size is liable to apparent variation on abrasion, so that they cannot be relied upon as distinguishing features. Of the three large teeth on the front tibiae the two hinder ones project outwards at almost right angles to the tibiae themselves, the apical one is at the usual angle; between the teeth there are usually feebly-rounded spaces, which sometimes assume the appearance of feeble teeth.

The following table is of males only, consequently *scutellaris* and *quinquedentatus* and the species unknown to myself are omitted from it:—

A. *Pygidium mucronate*.

- | | | |
|-----|---|-----------------------|
| a. | Almost entirely glabrous | <i>glaber</i> |
| aa. | More or less densely squamose. | |
| b. | Elytra black | <i>mucronatus</i> |
| bb. | Elytra reddish, the margins sometimes excepted. | |
| c. | With a transverse fasciculate ridge near apex of abdominal fovea | <i>apicalis</i> |
| cc. | Without such a ridge | <i>castaneipennis</i> |

- AA. Pygidium not mucronate.
- B. Abdomen with conspicuous transverse fascicles near base ... *squamiventris*
- BB. Abdomen without any such fascicles.
- C. (44) Abdominal fovea a circular depression, without oblique, transverse, or curved ridges.
- d. Elytra black ... *nigrinus*
- dd. Elytra red ... *rufipennis*
- CC. Abdominal fovea not as in C.
- D. Fovea not abruptly terminated at base of apical segment ... *bursariæ*
- DD. (45) Fovea abruptly terminated there.
- E. Prothorax black.
- e. Apex of fovea with conspicuous, long, ferruginous hairs ... *fasciculatus*
- ee. Apex not so clothed ... *vagans*
- EE. Prothorax not black.
- F. Prothorax infusate ... *dubius*
- FF. Prothorax no darker than elytra ... *nigriceps*

MICROVALGUS LAPEYROUSEI, G. et P.

Some years ago, the late Rev. T. Blackburn identified some females from Galston as *lapeyrousei*. There are now ten Galston females from his own collection, and three from mine, bearing his name label, but these probably belong to at least two species.⁽⁴⁶⁾ Not one of them agrees with the following particulars in the description given by Burmeister:⁽⁴⁷⁾ "Fuscus, elytris tibiisque rufescentibus; supra dense fulvo-squamosus," and "Under-surface blackish-brown, more sparsely clothed with scales"; nor with his own remarks on the species when commenting on the genus: "*Lapeyrousei*, characterized as a dark-brown species with reddish elytra and tibiæ, and underside blackish." As the prothorax is no darker than the elytra, and on the under-surface only the meso- and metasternum are dark, and the legs are uniformly reddish; the scales also are entirely white or whitish and are denser on the under- than on the upper-surface.

(44) In these species the hind edge of the fovea, seen directly from behind, appears as a transverse ridge, but this is really the tip of the segment, not a specially elevated ridge.

(45) The base of the abdomen is depressed in all species, but in these the apical segment has a large fovea, which is separately concave, glabrous, and conspicuously terminated in a straight line at the base.

(46) One of which is almost certainly *castaneipennis*.

(47) Apparently the only description he had seen.

I have seen no specimen that agrees at all well with the description. Some unplaced females from Jenolan, an unplaced female, without locality label, in Mr. Griffith's collection, some females of *bursariæ*, and some males of *dubius*, certainly have the prothorax darker than the elytra, and one of the Jenolan specimens has the abdomen almost as dark as the metasternum, but the tibiæ are uniform in colour with the rest of the legs and all the scales are white or whitish. An occasional male of *castaneipennis* agrees passably well with the colours, except of the legs, but has scales uniformly pale and much denser on the under- than on the upper-surface.

But Burmeister quite probably had another species under examination, as in the original description the colours and clothing are given as follows:—"Tête, corselet, parties inférieures du corps,⁽⁴⁸⁾ plaque anale, noires lisses; élytres brunes; tout le corps est parsemé d'écailles jaunâtres."⁽⁴⁹⁾ The original figure is quite useless, and the original description would fit the males of the following species more or less well:—*Apicalis*, *bursariæ*, *castaneipennis*, *dubius*, *fasciculatus*, *rufipennis*, and *vagans*. On the whole it would appear to be unsafe to identify the species without additional particulars, and especially, if the type is a male,⁽⁵⁰⁾ of the abdomen and pygidium.

MICROVALGUS SCUTELLARIS, Blackb.

Four females appear to belong to this species. One of these is the specimen from the collection of the late Rev. T. Blackburn previously commented upon. Its prothorax, instead of having dark spots, as in the description, has a dark semi-circle across the apical half, with the convex side in front. Another from his collection, without a label of any kind and previously mixed with some unsorted specimens, has eight small and obscure spots. A specimen from Forest Reefs has six, and one from Jenolan has but two.

All these specimens have the scutellum densely clothed with whitish scales, and with sooty ones intermingled with the others on the prothorax and elytra. On the py- and propygidium the scales are dense, mostly pale but with four irregular clusters of sooty ones.

The male, as such, is unknown, and it would be unwise to recognize any specimen as a male of the species, unless it was actually taken coupling with a typical female.

(48) These would appear to include the legs whose colours are not separately mentioned.

(49) In a preliminary diagnosis (p. 47) they are given as "ater, luteo-squamosus; elytris brunneis."

(50) From the description of its colours it would appear to be a male.

MICROVALGUS YILGARNENSIS, Blackb.

Prior to the type of this species being sent to the British Museum I carefully examined it, but was unable to find any specimen that agreed exactly with it, although it appeared close to many, and closest of all to a small female of *dubius*, from which, however, it differed to a certain extent in colour and clothing. The front angles of its prothorax, upon which much stress was laid in the description, are much the same as in other species of the genus; in all they are strongly projecting, but are normally indistinct to the naked eye, owing to juxtaposition with the head; but if this is more depressed than usual they stand out prominently.

The species, of course, as are so many of the genus, may be a widely-distributed one, but until a male has been described from Yilgarn or a nearby locality, it would be unsafe to identify even females, other than from Western Australia, as belonging to it.

MICROVALGUS, sp.

A species of the genus occurs in South Australia, but the only specimens of it before me are a female from Mylor (belonging to Mr. Griffith), and another from Mount Lofty (from Mr. S. H. Curnow); and these agree with the females of so many species that it would be unsafe to assign them to any one. They are of a rather dingy red, with the head (except in front), meso- and metasternum black; and rather sparsely clothed. The Mount Lofty specimen has some very obscure dark spots on the prothorax, and a few sooty scales forming four extremely feeble spots on the py- and propygidium, so that, to a certain extent, it resembles *scutellaris*, although it probably does not belong to that species.

MICROVALGUS CASTANEIPENNIS, MacI.

Pl. xiii., fig. 190.

♂. Black; elytra and tip of scutellum castaneous, legs of a dull-red, sometimes blackish. Moderately densely clothed (in series on the elytra) with white or stramineous scales, denser on scutellum, propy- and pygidium than elsewhere.

Pygidium with a small subtriangular process, projecting distinctly backwards. *Abdomen* with a wide depression along middle. Length, $2\frac{3}{4}$ - $3\frac{1}{2}$ mm.

♀. Differs in being larger ($3\frac{1}{4}$ -4 mm.) with only the head black (the muzzle paler) but usually the meso- and metasternum are black or infusate; pygidium not produced backwards at apex, and abdomen strongly and evenly convex.

Hab.—Queensland: Gayndah, Dalby; New South Wales: Tamworth, Forest Reefs, Wollongong, Jenolan, National Park, Galston, Sydney, Queanbeyan.

Very distinct from most species of the genus by the conspicuously-mucronate pygidium of the male. On the male the abdomen is longitudinally depressed from base to apex, and is terminated by a conspicuously-elevated and almost spiniform process; at a glance this appears to be the projecting tip of the penis-sheath, but when it can be clearly viewed from behind it is seen to be attached to the derm, and not to proceed from the anal opening. It appears to be composed of compacted setæ, and is sometimes bifid; its occasional absence appears to be due to abrasion. The depression is sometimes clothed throughout its length, but is usually partly glabrous. The elytra of the male are usually of one shade of colour throughout, but occasionally are darker on the sides. His prothorax is occasionally diluted with red at the sides and base; and his legs vary from a rather dingy red to quite black, with the exception of the claws and tibial spurs. Usually the smaller specimens of both sexes have the lateral tubercles of the propygidium more distinct, and the smaller males have the apical mucro more conspicuous, than on the larger specimens. A co-type male, and some specimens from Tamworth, have the prothorax almost as long as wide, with almost parallel sides, but on most specimens it is more transverse, and the sides are evenly rounded. Two females, mounted on the same card as the co-type male, have the metasternum but little darker than the abdomen, but on the others it is almost black, or at least infusate.

MICROVALGUS APICALIS, n. sp.

♂. Black, elytra almost flavous, but slightly darker at sides, tip of scutellum and parts of legs obscurely diluted with red, moderately clothed with rather thin, whitish scales, stouter and denser on propy- and pygidium than elsewhere, and seriate on elytra.

Prothorax almost as long as wide, sides gently rounded. *Pygidium* with a stout process projected backwards at tip. *Abdomen* with a wide longitudinal depression, deeper on apical segment than elsewhere, near its apex a transverse ridge crowned with ferruginous hairs, becoming fasciculate on sides. Length, $3\frac{1}{4}$ - $3\frac{1}{2}$ mm.

Hab.—New South Wales: National Park, Galston (A. M. Lea).

Decidedly close to the preceding species, but the mucro stouter, and abdominal fovea with a transverse ridge crowned with ferruginous hairs. On one specimen the mucro is truncate at its tip, on the other it is widely triangular; but as in all other characters they agree they would appear to be conspecific.

I have not ventured to identify the female of this species, of *vagans*, *fasciculatus*, or of *nigriceps*, amongst the many unplaced females under examination.

MICROVALGUS MUCRONATUS, n. sp.

♂. Black. Clothed with white or whitish scales, dense on scutellum, propy- and pygidium, and on under-surface, sparser elsewhere, and on prothorax and elytra mixed with sooty ones.

Prothorax quite as long as wide, sides almost parallel. *Pygidium* with a triangular process projected backwards at tip. *Abdomen* with a wide and rather shallow depression, across the apex of same with a feeble curved process, crowned with short ferruginous setæ, becoming paler and subfasciculate on sides. Length, $2\frac{1}{2}$ - $2\frac{3}{4}$ mm.

Hab.—North Queensland and Mackay (Blackburn's collection), Coen (H. Hacker), Cairns (E. Allen). Type, I. 2229, in South Australian Museum.

With a mucronate pygidium as in the two preceding species, but elytra black, and abdominal depression different at apex. From the other black species it is readily distinguished by the pygidium. The spurs to the hind tibiæ are rather shorter than usual. The sooty scales on the upper-surface appear almost white from certain directions. On some specimens the tarsi are reddish. The specimen from Mackay is less densely clothed than the others, but appears to have been partly abraded.

The only specimen before me which with some confidence may be identified as a female of the species is from Cairns, and differs from the males in having the abdomen (basal segments infuscated), propy- and pygidium of a rather pale red, with the scales of a rather dark stramineous, and on the propygidium mixed with a few sooty ones, the legs diluted with red, and the pygidium and abdomen simple.

MICROVALGUS GLABER, n. sp.

♂. Of a dark livid-brown, head and prothorax blackish. Glabrous except for a few scattered scales about tip of abdomen and on sides of suture.

Head with feeble punctures. *Prothorax* about as long as wide, with a small depression near the middle of each side; punctures very shallow. *Elytra* with feeble punctures and striæ. *Pygidium* obtusely mucronate at tip. *Abdomen* widely and shallowly depressed along middle, the depression at apex with a transverse space clothed with short setæ. Length, $2\frac{3}{4}$ - $3\frac{1}{4}$ mm.

♀. Differs in having the propy- and pygidium larger and paler and the abdomen and pygidium simple.

Hab.—New South Wales: Galston (D. Dumbrell), Sydney (A. M. Lea).

Had I seen but one specimen of this species it would probably have been considered as in some way damaged, or possibly as abraded and immature; but as there are two of each sex before me, with the same curiously livid colour, and almost entirely glabrous surface, it appears desirable to name them. The apical mucro is wider and shorter than in the other species so armed, but it is quite distinct from the side.

MICROVALGUS SQUAMIVENTRIS, n. sp.

♂. Black. Clothed with sooty scales, with a few white ones interspersed, but white ones dense on scutellum, forming a spot on each side of propygidium, and dense on parts of under-surface.

Prothorax about as long as wide. *Abdomen* with a wide and rather shallow fovea on apical segment, at the sides of and behind same a few long whitish scales, but on the three segments before it there are numerous long erect scales, forming loosely compacted fascicles. Length (♂, ♀), 4-4½ mm.

♀. Differs in having the abdomen regularly convex, with normally-adpressed scales.

Hab.—New South Wales: Wollongong (A. M. Lea); Victoria: Dividing Range, Bright (Blackburn's collection), Warragul (J. C. Goudie). Type, I. 2227, in South Australian Museum.

A black species, at first sight apparently belonging to *nigrinus*, but the males readily distinguished by the fascicles of erect scales anterior to the fovea. One of the males has five teeth to each of the front tibiæ, the second and fourth being smaller than the others, but its abdomen is the same as those of the other males. Each of the three specimens that I have identified as a female is without a line of white scales along the middle of the py- and propygidium, such as is usually present on the female of *nigrinus*, but many females of that species are also without such a line.

On this and all the following species the pygidium is without an apical mucro.

MICROVALGUS NIGRINUS, MacL.

♂. Black. Clothing of upper-surface and sterna much as on preceding species.

Abdomen with rather dense white scales, nowhere elevated or fasciculate; apical segment with an almost perfectly circular, glabrous, and rather shallow fovea. Length, 3¼-3½ mm.

♀. Differs in being larger ($3\frac{1}{2}$ - $4\frac{1}{2}$ mm.), with the legs obscurely reddish, and abdomen strongly and evenly convex.

Hab.—Queensland: Gayndah; New South Wales: Tamworth, Blue Mountains, Jenolan, Wollongong, National Park, Galston, Sydney, Bombala; Victoria: Grampians.

In general appearance close to the preceding species, but the males easily distinguished by the abdominal clothing. I cannot, however, find any structural details by which the females of the two species may be distinguished. The male has really a fairly wide depression along the whole of the abdomen, but on the apical segment there is a large and circular glabrous space, with distinct punctures, which appears as an isolated fovea; the scales surrounding it are perhaps a trifle denser than elsewhere, but they are not at all raised or fasciculate, nor are there any elevated processes, within or at the sides of the fovea. Some of the scales are of a snowy-whiteness on some specimens, but they are usually stramineous. To the naked eye the scutellum usually appears as a conspicuous, white, central spot, but on two cotypes (of which there are six males before me) the scales there are sooty, but they are matted together with gum, which often obscures white scales. On the propygidium of the male there are nearly always three distinct spots of pale scales, with a few sooty ones between the spots; on the pygidium they are uniformly whitish. But the pygidium of the female usually has some sooty scales, with a median line of white ones. Some females have the elytra and mesosternal process obscurely diluted with red.

MICROVALGUS RUFIPENNIS, n. sp., or var. of *nigrinus*.

♂. Black; elytra and legs of a rather bright rusty-red. Upper-surface with sooty scales, with a few whitish ones interspersed, scutellum, propy- and pygidium and under-surface (except abdominal fovea) with dense white or whitish scales. Length, 3 - $3\frac{1}{2}$ mm.

Hab.—Australia (Blackburn's collection); New South Wales: Wollongong (A. M. Lea); Victoria: Gisborne (H. H. D. Griffith). Type, I. 2228, in South Australian Museum.

The abdomen of the male is exactly as in *nigrinus*, but as the elytra and legs are conspicuously reddish, and the propygidium⁽⁵¹⁾ and pygidium are uniformly clothed with pale scales, I have ventured to describe it as new. There are generally a few white scales about the tip of the elytra.

A female, carded with two males, from Wollongong, possibly belongs to this species. Its prothorax is of a dull-red,

(51) On one of the five males before me the propygidium is feebly trimaculate.

the propygidium has two wide spots of sooty scales posteriorly, and the pygidium has two feeble spots of sooty scales, with the paler ones (these are stramineous instead of white) appearing to form an outer ring and a median line. It is much like the specimen of *scutellaris*, previously commented upon, but is in much better condition. I have not ventured to associate the males with that species, however, as the female may not belong to it, and its identity with the present one is by no means certain.

MICROVALGUS BURSARIÆ, n. sp.

♂. Black, elytra castaneous, legs more or less reddish, but the femora black or blackish. Moderately clothed with white scales, seriate on elytra, denser on scutellum, propy-, pygidium, and abdomen than elsewhere, and sometimes mixed with a few sooty ones on prothorax.

Prothorax not much wider than long, sides moderately rounded. *Abdomen* with a wide, rather shallow, longitudinal, rather sparsely-clothed depression, each side of it near, but not at apex, with a short oblique ridge. Length, $3-3\frac{1}{4}$ mm.

♀. Differs in being larger ($4-4\frac{1}{2}$ mm.), only the head, meso-, and metasternum black, and the abdomen simple.

Hab.—Tasmania (Australian Museum, Sydney, and F. M. Littler): West Tamar, Launceston (Aug. Simson), Mole Creek, on *Bursaria spinosa* (A. M. Lea); Victoria: Dividing Range (Blackburn's collection), Gisborne (H. H. D. Griffith); New South Wales: Jindabyne (A. J. Coates), Jenolan (J. C. Wiburd), Forest Reefs (Lea), Ben Lomond, 4,500 ft. (A. J. Turner). Type, I. 98, in South Australian Museum.

In many respects close to the following species, but with the abdominal depression of the male partly clothed right along the middle and each side near apex with a short oblique ridge within the depression, not marking the sides of same as in that species. The two ridges are very short, and often appear connected together as a short curved ridge, but this is due to clothing somewhat obscuring their outlines, when they have a fasciculate appearance. Seen from the side the outlines of the abdomen also seem different, and the ridge appears like a short fascicle projected obliquely backwards. The colours and clothing of both sexes are exactly like those of many specimens of *castaneipennis*, but the pygidium of the male is not mucronate, its tip on some specimens appears to be feebly longitudinally carinate, but this appearance is never very distinct, and disappears on abrasion. Some males from Victoria have the prothorax diluted with red in parts, and one has it infuscated only; they have the legs entirely red, but the

abdomen and pygidium are normally dark. One male, however, is coloured exactly as are normal females. In the female the prothorax is sometimes rather deeply infuscated, although never black, but it usually is no darker than the elytra. The legs of both sexes are sometimes entirely red, but in the male the femora are nearly always black, the difference in colour between the femora and tibiæ, however, is seldom very pronounced. It is the only member of the subfamily known to occur in Tasmania.

MICROVALGUS VAGANS, n. sp.

Pl. xiii., figs. 191, 192.

♂. Black, elytra of a rather dingy red, usually with the sides infuscated. Rather densely clothed with white or whitish scales, seriate on elytra and denser on scutellum, propy- and pygidium, abdomen (except in fovea) and sides of sterna than elsewhere.

Prothorax almost as long as wide, sides feebly rounded. *Abdomen* with a conspicuous fovea on apical segment. Length, $2\frac{1}{2}$ - $2\frac{3}{4}$ mm.

Hab.—Queensland: Dalby (Mrs. Hobler), Brisbane (Macleay Museum), North Queensland (Blackburn's collection); New South Wales: Jenolan (J. C. Wiburd), Blue Mountains (H. W. Cox), Sydney (A. J. Coates), Galston (D. Dumbrell & Sons), Tamworth, Wollongong, National Park, Lawson, Queanbeyan (A. M. Lea). Type, I. 766, in South Australian Museum.

The colour and clothing are exactly as in many specimens of *castaneipennis*, but readily distinguished from that species by the absence of a mucro to the pygidium, and by the abdomen. The latter is depressed throughout the middle of its length, but the apical segment has a wide median glabrous excavation (in consequence appearing black), abruptly terminated at its base, with the sides parallel for some distance, and then margined by oblique ridges to the middle of the apex, which is strongly incurved. Seen from the side each ridge at its commencement appears to be supplied with a few scales or a feeble fascicle, but these are not always present, probably on account of abrasion. On an occasional specimen there is a vague suggestion of a tip to the pygidium, but when viewed from the side it disappears, whereas in *castaneipennis* it is very distinct from the side.

Although there are sixty-six males of the species before me, I can find no features by which females may be distinguished from females of *castaneipennis*, of the preceding, or of the three following species.

var. OBSCURIPENNIS, n. var.

Nine males appear to represent a variety of this species; they differ in having the prothorax somewhat narrower, and the elytra entirely black, or at least black feebly diluted with red. The abdominal fovea is exactly as on normal males, and by this the variety may be distinguished from *nigrinus* and *squamiventris*.

Hab.—North Queensland (Blackburn's collection), Cairns (E. Allen); New South Wales: Gosford (H. W. Cox), Galston (D. Dumbrell & Sons), Sydney (A. J. Coates).

MICROVALGUS FASCICULATUS, n. sp., or var. of *vagans*.

♂. Black, elytra castaneous, sides infuscated. Clothing, except of the abdomen, as in preceding species. Length, $2\frac{1}{2}$ -3 mm.

Hab.—New South Wales: Jenolan (J. C. Wiburd), Galston (A. M. Lea).

Close to the preceding species, but abdominal fovea apparently much shorter, owing to its apical half being clothed with ferruginous setæ, and the sides, from the middle to where they meet at the apex, marked with a conspicuous semicircle of upright ferruginous hairs, condensed into a fascicle on each side. Seven specimens agree in these details, but it seems possible that they may eventually be found to represent but a variety of *vagans*. The tarsi are sometimes reddish, and sometimes other parts of the legs are diluted with red.

MICROVALGUS DUBIUS, n. sp., or var. of *vagans*.

♂. Head (muzzle excepted), meso- and metasternum black, prothorax infuscated, elytra and legs reddish or castaneous, propy- and pygidium, abdomen, and prosternum varying from reddish to black, scutellum infuscated, the tip paler. Clothing and shape, except of abdomen, much as those of *vagans*. Length, $2\frac{3}{4}$ -3 mm.

♀. Differs in being entirely pale, except for most of head, and the meso- and metasternum, which are black or blackish; the abdomen also is larger, and evenly convex.

Hab.—Victoria: Grampians (C. French).

Ten specimens, five of each sex, were given to me some years ago by Mr. French. I cannot, however, distinguish the females from those of several other species. Some males agree with Burmeister's description of *lapeyrousei*, except that the legs are uniformly coloured, instead of the tibiae being of different colour to those of other parts (as implied in the description). The abdominal fovea is alike on all the males, and is glabrous in front of the ridges, but wider than

in *vagans*, each ridge commences slightly behind the middle, and is obliquely directed to a point slightly anterior to the middle of the apex, but the two do not join; at its commencement each is supplied with a small fascicle. The prothorax also is not black as in *vagans*, although darker than the elytra. The hind parts of the body are variable in colour.

MICROVALGUS NIGRICEPS, n. sp., or var. of *vagans*.

♂. Black; muzzle, prothorax, scutellum, elytra, and legs of a more or less bright castaneous. Shape and clothing much as those of *vagans*. Length, $2\frac{3}{4}$ -3 mm.

Hab.—Queensland: Dalby (Mrs. F. H. Hobler).

The abdominal fovea is somewhat like that of *vagans*, and is exactly the same at base, but with its hind margins rounded and not divided off from the outer parts by oblique ridges, although when seen from the side there appears to be a fascicle at the apex. From *bursariæ* it is also distinguished by the abdominal fovea. The prothorax and scutellum, however, are of the same shade of colour as the elytra, whilst in those species they appear to be always black, or at least much darker than the elytra. The fovea of the preceding species, when viewed directly from above, appears conspicuously margined posteriorly, by an oblique ridge on each side; on the present species when so viewed the ridges are not traceable. The colour is much like that of the females of *castaneipennis*, and of several other species, but the hind parts of the body are black; the abdomen, however, is obscurely diluted with red at the middle of the base.

A male from Sydney possibly belongs to this species, but has the prothorax slightly infuscated in middle, and the under-parts infuscated instead of black, with the prosternum still paler.

MICROVALGUS QUINQUEDENTATUS, n. sp.

♀. Dark-brown, some parts almost black, legs somewhat paler. Densely clothed with scales varying from almost white to chocolate-brown.

Head with concealed punctures. Clypeus rather long, moderately convex, apex narrowed and rounded; with dense, distinct punctures. *Prothorax* almost as long as wide, sides feebly decreasing in width from base to apex, but more rounded in front, with the front angles rather feebly produced, sides shallowly depressed about middle, a feeble ridge on each side of middle of apex, and an oblique one between same and the side; punctures normally concealed. *Elytra* short, widely depressed along middle, the depression gradually narrowed from base to apex, sides oblique and rounded, with

dense punctures. *Propygidium* wide, hind edge almost straight, the outer angles tuberculate. Pygidium rather strongly transverse, apex obtusely notched. Front *tibiæ* with five strong teeth, hind *tibiæ* with short spurs, the longer of which is scarcely one-third the length of the following joint, basal joint of each of the four hind tarsi twice the length of the second. Length, 5 mm.

Hab.—Queensland: Cape York (W. D. Dodd and H. Elgner). Type, I. 2226, in South Australian Museum.

There are only two females before me, but the species may be readily distinguished from all others from Australia by its large size, distinctive clothing, and by several details of sculpture. The scales on the head and prothorax have a mottled appearance; on the elytra they are also mottled, but each has a distinct pale spot slightly before the middle. On the propy- and pygidium, under-surface, and legs the scales are mostly white or stramineous.

DOUBTFULLY OR WRONGLY RECORDED AS AUSTRALIAN.

PANGLAPHYRA DUBOULAYI, Thoms.

(?) *Schizorrhina ebenina*, Butler.

Pl. xiii., fig. 182.

This species was described by Thomson as from the Solomon Islands and referred to *Neophonia*. Kraatz, in making it the type of a new genus, stated that it also occurred in Northern Australia.

In the late Rev. T. Blackburn's copy of Masters' Catalogue it is marked as a synonym of *S. ebenina*, but on what authority is not given.

There is a specimen in the National Museum, Melbourne, labelled as *P. duboulayi* from Queensland and from French's collection. It appears to be correctly named, but the clypeus is mostly flavous with a streak extending back almost to the base of the head (the description says "caput rufo-ochraceo-maculatum"). The prothorax has a narrow, irregular, flavous streak on each side of the apical two-thirds, just within the margin, instead of being entirely black. The side-pieces of the meso- and metasternum are almost wholly flavous, and the hind coxæ are flavous at the sides. The abdomen and pygidium have flavous markings as in the description, but in addition the under-parts and femora are in places diluted with red. The specimen has a conspicuous longitudinal impression on the abdomen, and so is a male. But its front *tibiæ* are distinctly bidentate (fig. 182), whereas Thomson says, "Tibiæ anticæ mas. inermes, foem. tridentate." It measures 27 mm., but

with the head more extended than it is at present would quite equal the length (29 mm.) of the type.

The specimen agrees well with Butler's figure of *S. ebenina* (given as from an unknown locality in Oceania), except as to the front tibiæ, which are figured as tridentate (but they are almost certainly sexually variable). But *ebenina* is described as being much larger (18 lines, or 38 mm.) and entirely black.

The question as to whether *ebenina* and *duboulayi* are synonymous⁽⁵²⁾ could not, of course, be decided from a specimen which does not agree exactly with the description of either. Moreover, it seems doubtful if the species really occurs in Australia. Mr. French obtained the specimen from the late Mr. F. H. du Boulay, and the latter certainly had specimens of it from the Solomons.

SCHIZORRHINA EBENINA, Butler.⁽⁵³⁾

I cannot find that this species has been recorded as Australian, although it is so noted in the late Rev. T. Blackburn's copy of Masters' Catalogue. See notes under preceding species.

DICEROS⁽⁵⁴⁾ PLAGIATUS, Latr.⁽⁵⁵⁾

This species was wrongly recorded as from New Holland. In Gemminger and Harold's Catalogue (p. 1281) it is recorded from Timor, and placed as a synonym of *Heterorrhina bicornis*, Latr.

CETONIA FELINA, G. and P.⁽⁵⁶⁾

Originally recorded as from New Holland, but Burmeister stated that it was from Amboina. The figure is evidently of a *Glycyphana*, but I have seen nothing at all approaching it from Australia.

GNATHOCERA DORSALIS, G. and P.⁽⁵⁷⁾

Originally recorded as from New Holland, but Burmeister stated that it was from Nepaul.*

LOMAPTERA AURATA, Gestro.

Described by Gestro as from Cornwallis or Tawan Island, in Torres Straits, and in Masters' Catalogue recorded as Australian. I was unable to find the island marked on any

(52) If synonymous, *ebenina* has priority.

(53) Proc. Zool. Soc., 1865, 729, *cum. fig.*

(54) Sometimes written *Dicheros*.

(55) Dej. Cat. Col. (2nd edit.), p. 169.

(56) Mon. Cet., pp. 63 and 270, pl. lii., fig. 4; Burm., Handbk iii., p. 795.

(57) *L.c.*, pp. 47 and 80, pl. xxii., fig. 4; Burm., *l.c.*, p. 226

map of the Torres Straits region, nor could I find any reference to it, although there are several Cornwallis Islands elsewhere. Mr. C. Hedley, however, informed me that it is a small island a little west of Saibai, and close to the Papuan coast. Unless evidence is forthcoming that the species occurs in Queensland, or on some islands adjacent to same, it should not, therefore, be regarded as Australian.

Gestro described the species as having a golden lustre, but Schoch⁽⁵⁸⁾ stated that he could not perceive the same.⁽⁵⁹⁾ A female in Mr. French's collection labelled as *aurata* (apparently correctly so) is also without golden lustre, but in some lights the surface (more especially at the sides) appears to have a beautiful purplish lustre. Its pygidium is more acutely pointed than in any known Australian species, except the new one here described.

Genus and Species. (?)

A small (13 mm.) specimen in the National Museum is labelled as from Queensland, but as I have seen no Australian species at all close to it in structure, prefer to return it unnamed, as it may not be really Australian.

It has outlines somewhat as in *Clithria eburneoguttata*, but has very small punctures, the elytra are transversely strigose on the sides from the middle to the apex, round the apex, and a short distance up the suture, where the strigæ become longitudinal. It is black, but with most of the under-surface and the legs reddish; the clypeus is reddish, with two black lines. The pygidium is mostly black; but reddish, with black spots, on the lower-surface. The front tibiæ are armed at the apex only, the others about the middle as well. The mesosternal process is acute.

EXPLANATION OF PLATES.

PLATE VI.

- Fig. 1. *Lomaptera acanthopyga*, Lea.
 „ 2. *Dilochrosis rufolatera*, Lea.
 „ 3. „ *walteri*, Lea.
 „ 4. *Eupæcila evanescens*, Lea.
 „ 5. *Chlorobapta hirtipes*, Lea.
 „ 6. *Polystigma calopyga*, Lea.
 „ 7. *Tyrphora vittivaria*, Lea.
 „ 8. *Glycyphana ochreonotata*, Lea.

(58) Mitt. Schweiz. Ent. Ges., x., p. 143.

(59) "Den Goldschimmer der grünen Farbe konnte ich nicht wahrnehmen."

PLATE VII.

Markings of Upper-surface of—

- Fig. 9. *Lomaptera duboulayi*, Thoms.
 „ 10. „ *cinnamomea*, Thoms.
 „ 11. „ „ „
 „ 12. „ *macrosticta*, Lea.
 „ 13. „ „ „
 „ 14. „ *hackeri*, Lea.
 „ 15. *Dilochrosis brouni*, Kirby.
 „ 16. „ „ „
 „ 17. „ „ „
 „ 18. „ *bakewelli*, White.
 „ 19. „ *walteri*, Lea.
 „ 20. *Eupæcila australasiae*, Don.
 „ 21. „ „ „
 „ 22. „ „ „ var. *intricata*, Lea.
 „ 23. „ *inscripta*, Janson.
 „ 24. „ „ „
 „ 25. *Polystigma octopunctata*, Burm.
 „ 26. „ „ „
 „ 27. „ „ „
 „ 28. „ „ „

PLATE VIII.

Markings of Upper-surface of—

- Figs. 29 to 40. *Chlorobapta frontalis*, Don.
 „ 41 to 48. *Clithria eucnemis*, Burm.

PLATE IX.

Markings of Upper-surface of—

- Fig. 49. *Clithria eucnemis*, Burm.
 „ 50. „ „ „
 „ 51. „ „ „
 „ 52. *Chlorobapta besti*, Westw.
 „ 53. „ „ „
 „ 54. *Polystigma punctata*, Don.
 „ 55. „ „ „
 „ 56. „ „ „
 „ 57. „ „ „
 „ 58. *Schizorrhina atropunctata*, Kirby.
 „ 59. „ „ „
 „ 60. „ „ „
 „ 61. *Lyraphora obliquata*, Westw.
 „ 62. „ „ „
 „ 63. „ „ „
 „ 64. „ „ „
 „ 65. „ *velutina*, Maccl.
 „ 66. „ „ „
 „ 67. „ „ „
 „ 68. „ „ „

PLATE X.

Markings of Upper-surface of—

- Fig. 69. *Lyraphora bassii*, White.
 „ 70. „ *vittivaria*, Lea.

| | | | |
|----------|------------------|----------------------|---------|
| Fig. 71. | <i>Ablacopus</i> | <i>trapezifer</i> , | Thoms. |
| „ 72. | „ | <i>tæniatus</i> , | Schoch. |
| „ 73. | „ | „ | „ |
| „ 74. | „ | „ | „ |
| „ 75. | „ | „ | „ |
| „ 76. | <i>Cacochroa</i> | <i>decorticata</i> , | Macl. |
| „ 77. | „ | „ | „ |
| „ 78. | „ | „ | „ |
| „ 79. | „ | <i>variabilis</i> , | „ |
| „ 80. | „ | „ | „ |
| „ 81. | „ | „ | „ |
| „ 82. | „ | „ | „ |
| „ 83. | „ | „ | „ |
| „ 84. | „ | „ | „ |
| „ 85. | <i>Diaphonia</i> | <i>euclensis</i> , | Blackb. |
| „ 86. | „ | <i>lateralis</i> , | „ |
| „ 87. | „ | <i>satelles</i> , | „ |
| „ 88. | „ | „ | „ |

PLATE XI.

Markings of Upper-surface of—

| | | | |
|-----------------|------------------|---------------------|--------------|
| Figs. 89 to 94. | <i>Diaphonia</i> | <i>satelles</i> , | Blackb. |
| „ 95 to 99. | „ | <i>dorsalis</i> , | Don. |
| „ 100 to 107. | „ | <i>xanthopyga</i> , | Germ. |
| „ 108. | „ | <i>olliffiana</i> , | Janson, var. |

PLATE XII.

Markings of Upper-surface of—

| | | | |
|-----------|-------------------|--------------------|---------|
| Fig. 109. | <i>Diaphonia</i> | <i>palmata</i> , | Schaum. |
| „ 110. | „ | „ | „ |
| „ 111. | <i>Glycyphana</i> | <i>brunnipes</i> , | Kirby. |
| „ 112. | „ | „ | „ |
| „ 113. | „ | „ | „ |
| „ 114. | „ | <i>pulchra</i> , | Macl. |

Markings of Elytra of—

| | | | |
|--------|--------------------|-------------------------|--------------|
| „ 115. | <i>Dilochrosis</i> | <i>balteata</i> , | Vollenh. |
| „ 116. | <i>Neoclithria</i> | <i>eburneoguttata</i> , | Blanch. |
| „ 117. | <i>Ablacopus</i> | <i>ater</i> , | Schoch, var. |
| „ 118. | „ | „ | „ |
| „ 119. | „ | „ | „ |
| „ 120. | <i>Diaphonia</i> | <i>parryi</i> , | Janson. |
| „ 121. | „ | „ | „ |
| „ 122. | „ | „ | „ |
| „ 123. | „ | „ | „ |
| „ 124. | <i>Glycyphana</i> | <i>pulchra</i> , | Macl. |
| „ 125. | „ | „ | „ |

Markings of Prothorax of—

| | | | |
|--------|------------------|---------------------|--------|
| „ 126. | <i>Ablacopus</i> | <i>trapezifer</i> , | Thoms. |
| „ 127. | „ | „ | „ |
| „ 128. | „ | „ | „ |
| „ 129. | „ | „ | „ |
| „ 130. | „ | „ | „ |
| „ 131. | „ | „ | „ |

| | |
|-----------|------------------------------------|
| Fig. 132. | <i>Cacochroa varicollis</i> , Lea. |
| " 133. | " " " |
| " 134. | " " " |
| " 135. | <i>Diaphonia succinea</i> , Hope. |
| " 136. | " " " |
| " 137. | " <i>eucnensis</i> , Blackb. |
| " 138. | " " " |
| " 139. | " " " |

PLATE XIII.

| | |
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| Fig. 140. | Markings of Prothorax of <i>Diaphonia eucnensis</i> , Blackb. |
| " 141. | " " <i>mniszechii</i> , Jans. |
| " 142. | " " " |
| " 143. | " " " |
| " 144. | " " " |
| " 145. | " " " |
| " 146. | " " " |
| " 147. | " " " |
| " 148. | Pygidium of <i>Clithria eucnemis</i> , Burm. |
| " 149. | " " " |
| " 150. | " " " |
| " 151. | " <i>Polystigma punctata</i> , Don. |
| " 152. | " " " |
| " 153. | " " " |
| " 154. | " <i>Ablacopus trapezifer</i> , Thoms. |
| " 155. | " " " |
| " 156. | " " " |
| " 157. | " " " |
| " 158. | Hind leg of <i>Clithria eucnemis</i> , Burm. |
| " 159. | Front tibia of <i>Lomaptera yorkiana</i> , Janson. |
| " 160. | " " " |
| " 161. | " " <i>australis</i> , Wallace. |
| " 162. | " " " |
| " 163. (60) | " <i>Ablacopus tæniatus</i> , Schoch. |
| " 164. | " " " |
| " 165. | " <i>trapezifer</i> , Thoms. |
| " 166. | " " " |
| " 167. | " " " |
| " 168. | " <i>Diaphonia mniszechii</i> , Janson. |
| " 169. | " " " |
| " 170. | Middle " <i>Tapinoschema lacunosa</i> , Janson. |
| " 171. | Hind " " |
| " 172. | Front " <i>Pseudoclithria hirticeps</i> , Macl. |
| " 173. | " " <i>ruficornis</i> , Westw., typical. |
| " 174. | " " " " Westw., variety of male. |
| " 175. | " " " " Westw., variety of female. |
| " 176. | Hind " <i>kershawi</i> , Lea. |
| " 177. | Middle " <i>erythroptera</i> , Lea. |
| " 178. | Front " " " |

(60) A female from the Endeavour River, and another from Cairns, have the front tibiæ also as in fig. 163.

- Fig. 179. Middle tibia of *Pseudoclitiria fossor*, Lea.
 „ 180. Hind „ „ „ „
 „ 181. Front „ „ „ „
 „ 182. „ „ *Panglaphyra duboulayi*, Thoms. (?)
 „ 183. Mesosternal process of *Eupacila evanescens*, Lea.
 „ 184. „ „ *Polystigma calopyga*, Lea.
 „ 185. „ „ *Lyraphora obliquata*, Westw.
 „ 186. „ „ *bassii*, White.
 „ 187.⁽⁶¹⁾ „ „ *Diaphonia olliffiana*, Janson.
 „ 188. „ „ *Schizorrhina atropunctata*, Kby.
 „ 189. „ „ *Diaphonia lateralis*, Blackb.
 „ 190. Hind body of *Microalgus castaneipennis*, MacI.
 „ 191. „ „ *vagans*, Lea.
 „ 192. Outlines of abdominal fovea of *M. vagans*, Lea.
 „ 193.⁽⁶¹⁾ Clypeus of *Diaphonia olliffiana*, Janson.

(61) For the figures of *D. olliffiana* I am indebted to Mr. W. J. Rainbow.